HERBARIUM

MONARCH SERIES

GOODYEAR-MARSHALL PUB. CO.
Cedar Rapids, Iowa

Louise Doerflein. Botany 1a.
B. H. S. April, 8, 1920.

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Page...One... **PLANT DESCRIPTION** No.....1.....

PLANT—Kind ...Herb..... Duration...Perennial. Surface....Glabrous..

ROOT—Form ....Primary.....

STEM—Character. Herbaceous Growth. Epygenous Kind. Tuber. Direction..Erect..

LEAVES—Duration ..Deciduous.....Parts ...Blades....Petiole.....

Branching ..Simple..Crenate Arrangement...Radical Venation. Netted Veined

Form. Cordate. Surface..Glabrous.

INFLORESCENCE—Class Indeterminate Mode .....Solitary.....

Flower..... Perfect ~~Imperfect~~ ..... Complete ~~Incomplete~~ ..... Regular ~~Irregular~~ ..... Symmetrical ~~Unsymmetrical~~ .....

Perianth:

Calyx—Cohesion .Polysepalous. Color. Light. Green... Shape.....

Sepals—Number. Five Form. Lanceolate Color. Light. Green Surface. Glabrous.

Corolla—Cohesion Polypetalous Color. Purple.. Shape Labiate. Insertion Hypogynous

Petals—Number. ~~Five~~ Color. Purple....Form..Ovate.... Surface. Glabrous.

Androecium:

Stamens—Number. Five Cohesion. Distinct Insertion Hypogynous Position.....

Filaments—Anthers..Simple. Attachment Innate Aspect Inclined Dehiscence.....

Gynoecium:

Pistils—Number..One.... Kind..Simple..... Cohesion.....

Stigma—Number ...One..... Style—Number...One.....

Ovary—Number of Cells Three Insertion..Hypogynous Placentation..Parietal..

Ovules—Number. Many.

POLLINATION .....Self. Pollination.....

FRUIT—Kind ..Humus. soil.....Dehiscence .....

HABITAT—Soil. Humus. soil Light. Shade. Plants. Water. Mesophytes...

LOCALITY .....Woods.....Distribution .Widely distributed.

REMARKS ..Very common violet..growing in the eastern.... part of U. S. and blooms in April and May.....

DRAWINGS AND DIAGRAMS

No. 1 BOTANICAL SPECIMEN Page One

Order or Family Violaceae

Common Name Common Blue Violet

Genus Viola

Species Palmata

Locality Found in Damp Woods.

Date April 12, 1920

PLANT DESCRIPTION

No. 2

PLANT—Kind Herb Duration Perennials Surface Glabrous

ROOT—Form Multiple

STEM—Character Herbaceous Growth Epogenus Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade

Branching Simple Entire Arrangement Radical Venation Parallel Veined

Form Lanceolate Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Solitary

Flower ~~Perfect~~ ~~Imperfect~~ ~~Complete~~ ~~Incomplete~~ ~~Regular~~ ~~Irregular~~ ~~Symmetrical~~ ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous Color Light Yellow Shape Bell-shaped

Sepals—Number Six Form Lanceolate Color Light Yellow Surface Glabrous

Corolla—Cohesion Monopetalous Color Sulphur Yellow Shape Bell-shaped Insertion Hypogynous

Petals—Number One Color Sulphur Yellow Form United Surface Glabrous

Androecium:

Stamens—Number Six Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Adnate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Hypogynous

Stigma—Number One Style—Number One

Ovary—Number of Cells Three Insertion Superior Placentation Free Central

Ovules—Number Many

POLLINATION Cross-Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Loam Light Light Plants Water Mesophytes

LOCALITY Cedar Grove Distribution Well distributed

REMARKS This is a well-known early flower from England and western Europe. Blooming from March to May.

DRAWINGS AND DIAGRAMS

No. 2 BOTANICAL SPECIMEN Page Two

Order or Family Amaryllidaceae

Common Name Daffodil

Genus N. narcissus

Species N. Pseudo-Narcissus.

Locality Found wild Damp W.

Date April 12, 1920

PLANT DESCRIPTION

No. 3

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Primary

STEM—Character Herbaceous Growth Exogenus Kind Tuber Direction Erect

LEAVES—Duration Deciduous Parts Blade - Petiole

Branching Simple - Cleft Arrangement Radical Venation Netted - Veined

Form Obovate Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Solitary

Flower Perfect ~~Imperfect~~ Complete ~~Incomplete~~ ~~Regular~~ Irregular ~~Symmetrical~~ Unsymmetrical

Perianth:

Calyx—Cohesion Polypepalous Color Green Shape Lanceolate

Sepals—Number Two Form Lanceolate Color Green Surface Glabrous

Corolla—Cohesion Polypetalous Color White Shape Lanceolate Insertion Hypogynous

Petals—Number Eight Color White Form Lanceolate Surface Glabrous

Androecium:

Stamens—Number Many Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Innate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Cohesion

Stigma—Number Two Style—Number One

Ovary—Number of Cells One Insertion Superior Placentation Parietal

Ovules—Number Many

POLLINATION Self - Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Humus Light Shade Plants Water Mesophytes

LOCALITY Found in Damp Woods Distribution

REMARKS A low, smooth flower exuding from every part when broken or bruised an orange red juice April May

DRAWINGS AND DIAGRAMS

No. 3 BOTANICAL SPECIMEN Page. Three

Order or Family... Papaveraceae

Common Name ... Bloodroot

Genus ... Sanguinaria

Species ... Canadensis

Locality ... Cedar Grove Woods.

Date... April 13, 1920

Page. Four. PLANT DESCRIPTION No. 4.

PLANT—Kind. Herb. Duration. Perennial. Surface. Glabrous.

ROOT—Form. Primary.

STEM—Character. Herbaceous. Growth. Exogenous. Kind. Caulescent. Direction. Erect.

LEAVES—Duration. Deciduous. Parts. Blade - Petiole.

Branching. Simple - Divided. Arrangement. Radical. Venation. Netted - Veined.

Form. Surface. Glabrous.

INFLORESCENCE—Class. Indeterminate. Mode. Racem.

Flower. Perfect ~~Imperfect~~ Complete ~~Incomplete~~ Regular ~~Irregular~~ Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion. Polysepalous. Color. Light Green. Shape. Bell-shaped.

Sepals—Number. Four. Form. Ovate. Color. Light Pink. Surface. Glabrous.

Corolla—Cohesion. Polypetalous. Color. Light Pink. Shape. Ovate. Insertion. Hypogynous.

Petals—Number. Four. Color. Light Pink. Form. Ovate. Surface. Glabrous.

Androecium:

Stamens—Number. Six. Cohesion. Distinct. Insertion. Hypogynous. Position.

Filaments—Anthers. Simple. Attachment. Adnate. Aspect. Erect. Dehiscence.

Gynoecium:

Pistils—Number. One. Kind. Cohesion. Distinct.

Stigma—Number. One. Style—Number. One.

Ovary—Number of Cells. Two. Insertion. Hypogynous. Placentation. Parietal.

Ovules—Number. Four.

POLLINATION. Self Pollination.

FRUIT—Kind. Dehiscence.

HABITAT—Soil. Humus. Light. Shade Plants. Water. Mesophytes.

LOCALITY. Cedar Grove Woods. Distribution. Widely Distributed.

REMARKS. A very common early flower blooming in Mar. April and May.

DRAWINGS AND DIAGRAMS

No. 4 BOTANICAL SPECIMEN Page Four

Order or Family Ranunculaceae.
Common Name Crowfoot
Genus Ranunculus
Species Fascicularis
Locality Cedar Grove Woods
Date April 13, 1920

Page... ~~First~~ PLANT DESCRIPTION No.....5.....

PLANT—Kind ..Herb..... Duration..Perennial..... Surface..Glabrous.....

ROOT—Form .....

STEM—Character..Herbaceous Growth..Exogenous Kind..Caulescent Direction..Decumbent.

LEAVES—Duration ..Persistent..... Parts ..Blade--Petiole.....

Branching Compound--Palmate Arrangement..Cauline--Opposite Venation..Netted Veined

Form..Ovate..Surface..Glabrous.

INFLORESCENCE—Class ..Indeterminate Mode ..Solitary.....

Flower..... ~~Imperfect~~ Perfect ..... ~~Incomplete~~ Complete ..... ~~Irregular~~ Regular ..... ~~Unsymmetrical~~ Symmetrical .....

Perianth:

Calyx—Cohesion ..Monosepalous.. Color..Light Green. Shape..Salver-shaped

Sepals—Number..Five.. Form..Oblong... Color..Light Green Surface..Glabrous

Corolla—Cohesion ..Monopetalous. Color..Lavender Shape..Salver-shaped Insertion..Hypogynous

Petals—Number..Five.. Color..Lavender...Form..Cuneate.. Surface..Glabrous..

Androecium:

Stamens—Number..Five Cohesion..Distinct. Insertion..Hypogynous Position.....

Filaments—Anthers...Simple Attachment..Innate Aspect..Erect.. Dehiscence.....

Gynoecium:

Pistils—Number..One... Kind..... Cohesion..Distinct.....

Stigma—Number ..One..... Style—Number..One.....

Ovary—Number of Cells..Two.. Insertion..Superior.... Placentation..Parietal...

Ovules—Number..Few....

POLLINATION .....Self--Pollination.....

FRUIT—Kind .....Dehiscence .....

HABITAT—Soil..Clay Soil... Light..Light Plants... Water..Mesophytes.....

LOCALITY ..Cedar Grove Cemetery..Distribution ..Widely Distributed.....

REMARKS .....

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DRAWINGS AND DIAGRAMS

No. 5 BOTANICAL SPECIMEN Page Five

Order or Family Apocynaceae

Common Name Myrtle or Periwinkle

Genus Vinca

Species Minor

Locality Cedars Grove Cemetery

Date April 17, 1920

Page ~~Six~~ PLANT DESCRIPTION No ~~6~~

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form ~~Tuberous~~

STEM—Character Herbaceous Growth Exogenus Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade - Petiole

Branching ~~Simple~~ - Entire Arrangement Radical Venation Parallel - Veined

Form Lanceolate Surface Glabrous

INFLORESCENCE—Class ~~Indeterminate~~ Mode Racene

Flower ~~Perfect~~ ~~Imperfect~~ ~~Complete~~ ~~Incomplete~~ ~~Regular~~ ~~Irregular~~ ~~Symmetrical~~ ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous Color Blue Shape Ovate

Sepals—Number Six Form Ovate Color Blue Surface Glabrous

Corolla—Cohesion Monopetalous Color Blue Shape Ovate Insertion Hypogynous

Petals—Number Six Color Blue Form Ovate Surface Glabrous

Androecium:

Stamens—Number Six Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Innate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells Two Insertion ~~Superior~~ Placentation Parietal

Ovules—Number ~~Few~~

POLLINATION ~~Self~~ - Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Loam Light Light Plant Water Mesophytes

LOCALITY Cedar Grove Distribution Very Widely Distributed

REMARKS

DRAWINGS AND DIAGRAMS

No. 6 BOTANICAL SPECIMEN Page. Liza

Order or Family... Liliaceae

Common Name Grape Hyacinth

Genus ... Muscari

Species ... Botryoides

Locality ... Cedar Grove

Date... April 14, 1920

Page Seven. **PLANT DESCRIPTION** No. 7

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Tuberous

STEM—Character Herbaceous Growth Exogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade - Petiole

Branching Simple - Entire Arrangement Radical Venation Parallel-Veined

Form Lanceolate Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Solitary

Flower ~~Perfect~~ Imperfect ~~Complete~~ Incomplete ~~Regular~~ Irregular ~~Symmetrical~~ Unsymmetrical

Perianth:

Calyx—Cohesion Polysepalous Color White Shape Oblong

Sepals—Number Six Form Oblong Color White Surface Glabrous

Corolla—Cohesion Monopetalous Color Yellow Shape Bell-shaped Insertion Hypogynous

Petals—Number One Color Yellow Form Bell-shaped Surface Glabrous

Androecium:

Stamens—Number Six Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Adnate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells Three Insertion Superior Placentation Free Central

Ovules—Number Many

POLLINATION Self Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Humus Light Light Plants Water Mesophytes

LOCALITY Cedar Grove Flower Garden Distribution Wall Distributed

REMARKS

DRAWINGS AND DIAGRAMS

No. 7 BOTANICAL SPECIMEN Page Seven

Order or Family. Amaryllidaceae
Common Name Poets Narcissus
Genus Narcissus
Species Poeticus
Locality Cedar Grove
Date April 15, 1920

Page... Eighth. **PLANT DESCRIPTION** No..... 8.....

PLANT—Kind .Herb..... Duration..Perennial..... Surface...Glabrous.....

ROOT—Form ..Tuberous.....

STEM—Character..Herbaceous Growth..Endogenus Kind..Bulb... Direction..Erect.....

LEAVES—Duration ..Deciduous.....Parts ..Blade-Petiole.....

Branching Simple-Entire.. Arrangement..Radical Venation..Parallel-Veined

Form Linear.. Surface..Glabrous.

INFLORESCENCE—Class ~~Determinate~~ Indeterminate Mode ..Raceme.....

Flower..... ~~Perfect~~ Imperfect ..... ~~Complete~~ Incomplete ..... ~~Regular~~ Irregular ..... ~~Symmetrical~~ Unsymmetrical .....

Perianth:

Calyx—Cohesion ..Not present.... Color..... Shape.....

Sepals—Number ..None. Form..... Color..... Surface.....

Corolla—Cohesion ..Monopetalous. Color..Blue. Shape Bell-shaped Insertion..Hypogynous.

Petals—Number..Six.. Color..Blue.....Form..Ovate.... Surface...Glabrous.

Androecium:

Stamens—Number Six.. Cohesion..Distinct Insertion..Hypogynous Position.....

Filaments—Anthers...Simple Attachment..Adnate Aspect..Erect.. Dehiscence.....

Gynoecium:

Pistils—Number..One.... Kind..Simple.... Cohesion..Distinct.....

Stigma—Number ...One..... Style—Number....One.....

Ovary—Number of Cells..Three Insertion..Superior Placentation..Parietal...

Ovules—Number..Few...

POLLINATION .....

FRUIT—Kind .....Dehiscence .....

HABITAT—Soil..Humus.... Light...Light. Plant Water..Mesophytes..

LOCALITY ..Cedar Grove.....Distribution ..Well Distributed.....

REMARKS .....

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DRAWINGS AND DIAGRAMS

No. 8 BOTANICAL SPECIMEN Page. Eighth

Order or Family. Liliaceae

Common Name Common Dutch Hyacinth

Genus H. hyacinthus

Species Orientalis

Locality Cedar Grove

Date April 15, 1920

Page. Nine... **PLANT DESCRIPTION** No. 9.....

PLANT—Kind .Herb..... Duration. Biennial..... Surface.... Glabrous.....

ROOT—Form ... Primary - Tuberous .....

STEM—Character. Herbaceous Growth Exogenous. Kind Caulescent Direction Erect.....

LEAVES—Duration .Deciduous.....Parts ..Blade - Petiole.....

Branching .Simple - Entire. Arrangement..Radical. Venation: Parallel-veined

Form Lanceolate Surface Glaucous.

INFLORESCENCE—Class Indeterminate. Mode Solitary .....

Flower..... Perfect ~~Imperfect~~ ..... Complete ~~Incomplete~~ ..... Regular ~~Irregular~~ ..... Symmetrical ~~Unsymmetrical~~ .....

Perianth:

Calyx—Cohesion .Polysepalous.... Color..Red..... Shape.....

Sepals—Number. Three Form..Ovate.... Color...Red..... Surface. Glaucous

Corolla—Cohesion .Polypetalous Color Red.... Shape. Bell-shaped Insertion. Hypogynous

Petals—Number Three. Color..Red.....Form..Ovate.... Surface..Glaucous

Androecium:

Stamens—Number Six.. Cohesion. Distinct Insertion. Hypogynous Position.....

Filaments—Anthers..Simple Attachment Innate Aspect Erect.. Dehiscence.....

Gynoecium:

Pistils—Number...One... Kind...Simple..... Cohesion...Distinct.....

Stigma—Number .....One..... Style—Number....None.....

Ovary—Number of Cells Three Insertion..Superior... Placentation. Parietal....

Ovules—Number..Many

POLLINATION .....Self-Pollination.....

FRUIT—Kind ..Capsule.....Dehiscence ..Dehiscent.....

HABITAT—Soil..Humus..... Light..Light Plant... Water. Mesophyte....

LOCALITY ..Cedar Grove.....Distribution .Widely distributed,....

REMARKS .....

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DRAWINGS AND DIAGRAMS

No. 9 BOTANICAL SPECIMEN Page Above

Order or Family Liliaceae

Common Name Common Tulip

Genus Tulipa

Species Gesneriana

Locality Cedar Grove

Date April 16, 1920

Page Fern

PLANT DESCRIPTION

No. 1.D.

PLANT—Kind S. Shrub Duration Perennial Surface Glabrous

ROOT—Form Fibrous

STEM—Character Woody Growth Endogenous Kind Caulescent Direction Prostrate

LEAVES—Duration Deciduous Parts Blade Petiole

Branching Compound-Palmate Arrangement Cauline Opposite Venation Netted veined

Form Lanceolate Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Solitary

Flower ..... Perfect ~~Imperfect~~ ..... Complete ~~Incomplete~~ ..... Regular ~~Irregular~~ ..... Symmetrical ~~Unsymmetrical~~ .....

Perianth:

Calyx—Cohesion Gamosepalous Color Green Shape Bell-shaped

Sepals—Number Four Form Oblong Color Green Surface Glabrous

Corolla—Cohesion Gamopetalous Color Yellow Shape Bell-shaped Insertion Hypogynous

Petals—Number Four Color Yellow Form Oblong Surface Glabrous

Androecium:

Stamens—Number Two Cohesion Distinct Insertion Hypogynous Position .....

Filaments—Anthers Simple Attachment Innate Aspect Inclined Dehiscence .....

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells Two Insertion Superior Placentation Parietal

Ovules—Number Many

POLLINATION .....

FRUIT—Kind Pod Dehiscence Dehiscent

HABITAT—Soil Sandy soil Light Light Plants Water Mesophytes

LOCALITY Cedar Grove Distribution Widely Distributed

REMARKS .....

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DRAWINGS AND DIAGRAMS

No. 10 BOTANICAL SPECIMEN Page. Few

Order or Family. Orobanchaceae

Common Name .. Golden Bell

Genus . Conopholis

Species . Lusitanica

Locality . Cedar Grove

Date... April 16, 1928

Page Eleven

PLANT DESCRIPTION

No. 11

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Primary

STEM—Character Herbaceous Growth Exogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade Petiole

Branching Compound-Pinnate Arrangement Cauline Alternate Venation Netted-veined

Form Ovate Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Raceme

Flower ..... Perfect ~~Imperfect~~ ..... Complete ~~Incomplete~~ ..... Regular ~~Irregular~~ ..... Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous Color Green Shape Trumpet

Sepals—Number Five Form Ovate Color Green Surface Glabrous

Corolla—Cohesion Monopetalous Color Bluish-Purple Shape Tubular Insertion Hypogynous

Petals—Number One Color Bluish-Purple Form Ovate Surface Glabrous

Androecium:

Stamens—Number Five Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Innate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells Three Insertion Superior Placentation Parietal

Ovules—Number Many

POLLINATION Self-Pollination

FRUIT—Kind Achene Dehiscence Indehiscent

HABITAT—Soil Humus Light Shade Plant Water Mesophyte

LOCALITY Cedar Grove Woods Distribution Widely Distributed

REMARKS

DRAWINGS AND DIAGRAMS

No. 14 BOTANICAL SPECIMEN Page. Eleven

Order or Family. Boraginaceae

Common Name Bluebells

Genus Mertensia

Species Virginica

Locality Cedar Grove Woods

Date April 16 1920

Page Twelve

PLANT DESCRIPTION

No. 12

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Tuberous

STEM—Character Herbacous Growth Exogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade Petiole

Branching Compound-Palmate Arrangement Cauline-Opposite Venation Netted-veined

Form Ovate Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Umbel-Simple

Flower ..... Perfect ~~Imperfect~~ ..... ~~Complete~~ Incomplete ..... ~~Regular~~ Irregular ..... ~~Symmetrical~~ Unsymmetrical .....

Perianth:

Calyx—Cohesion Polysepalous Color Pink Shape Ligulate

Sepals—Number Ten Form Ovate Color Pink Surface Glabrous

Corolla—Cohesion Apetalous Color ——— Shape ——— Insertion ———

Petals—Number ——— Color ——— Form ——— Surface ———

Androecium:

Stamens—Number Many Cohesion Distinct Insertion Hypogynous Position .....

Filaments—Anthers Simple Attachment Innate Aspect Erect Dehiscence .....

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells Two Insertion Hypogynous Placentation Parietal

Ovules—Number Many

POLLINATION Self-Pollinations

FRUIT—Kind Akene Dehiscence Indehiscents

HABITAT—Soil Humus Light Shade Plant Water Mesophytes

LOCALITY Cedar Grove Woods Distribution Well Distributed

REMARKS .....

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DRAWINGS AND DIAGRAMS

No. 12

BOTANICAL SPECIMEN

Order or Family Ranunculaceae

Common Name Rue Anemone

Genus Anemonella

Species Thalictroides

Locality Cedar Grove, Woods

Date April 17, 1920

Page Thirteen. **PLANT DESCRIPTION** No. 13

PLANT—Kind Herb ..... Duration Perennial ... Surface Glabrous ...

ROOT—Form Tuberosus .....

STEM—Character Herbaceous Growth Exogenous Kind Caulescent Direction Erect ...

LEAVES—Duration Deciduous ..... Parts Blade - Petiole .....

Branching Compound - Pinnate Arrangement Cauline - Alternate Venation Netted - veined

Form Ovate ... Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Solitary .....

Flower ..... Perfect ~~Imperfect~~ ..... Complete ~~Incomplete~~ ..... Regular ~~Irregular~~ ..... Symmetrical ~~Unsymmetrical~~ .....

Perianth:

Calyx—Cohesion Polysepalous ..... Color ... Green ..... Shape .. Ovate .....

Sepals—Number Three .. Form Ovate ..... Color Green ..... Surface Glabrous.

Corolla—Cohesion Polypetalous Color Purplish Shape Ovate .. Insertion Hypogynous.

Petals—Number Three . Color Purplish ... Form Ovate ..... Surface Glabrous.

Androecium:

Stamens—Number Six . Cohesion Distinct .. Insertion Adnate .. Position .....

Filaments—Anthers Simple Attachment Adnate Aspect Erect .. Dehiscence .....

Gynoecium:

Pistils—Number One .... Kind Simple ..... Cohesion Distinct .....

Stigma—Number Three ..... Style—Number None .....

Ovary—Number of Cells Three Insertion Superior .. Placentation Free Central

Ovules—Number Many ..

POLLINATION ..... Self Pollination .....

FRUIT—Kind Berry ..... Dehiscence Indehiscent .....

HABITAT—Soil Humous ..... Light Shade Plants .. Water Mesophytes .....

LOCALITY Cedar Grove ..... Distribution Very Widely Distributed ..

REMARKS .....

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DRAWINGS AND DIAGRAMS

Order or Family Trilliaceae

Common Name Sessile Flowered Trillium

Genus Trillium

Species Sessile

Locality Cedar Grove

Date April 15, 1920

PLANT DESCRIPTION

No. 14

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Tuberous

STEM—Character Herbaceous Growth Erect Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blades

Branching Simple Entire Arrangement Cauline-Opposite Venation Netted-veined

Form Linear Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Raceme

Flower ... Perfect ~~Imperfect~~ ... Complete ~~Incomplete~~ ... Regular ~~Irregular~~ ... ~~Symmetrical~~ Unsymmetrical

Perianth:

Calyx—Cohesion Polysepalous Color Green Shape Ovate

Sepals—Number Two Form Ovate Color Green Surface Glabrous

Corolla—Cohesion Polypetalous Color Pink Shape Insertion

Petals—Number Five Color Pink Form Obovate Surface Glabrous

Androecium:

Stamens—Number Five Cohesion Distinct Insertion Epipetalous Position

Filaments—Anthers Simple Attachment Versatile Aspect Inclined Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells One Insertion Superior Placentation Basal

Ovules—Number Few

POLLINATION Self Pollination

FRUIT—Kind Capsule Dehiscence Dehiscent

HABITAT—Soil Humus Light Shade Plants Water Mesophytes

LOCALITY Cedar Grove Woods Distribution Widely Distributed

REMARKS

DRAWINGS AND DIAGRAMS

No. 14 BOTANICAL SPECIMEN Page Fourteen

Order or Family Portulacaceae
Common Name Spring Beauty
Genus Claytonia
Species Virginica
Locality Cedar Grove Woods
Date April 19 1920

PLANT DESCRIPTION

No. 15

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Tuberous

STEM—Character Herbaceous Growth Exogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade - Petiole

Branching Simple - Entire Arrangement Radical Venation Parallel Veined

Form Linear Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Solitary

Flower Perfect ~~Imperfect~~ Complete ~~Incomplete~~ Regular ~~Irregular~~ Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous Color Blue or Violet Shape

Sepals—Number Three Form Linear Color Bule or Violet Surface Glabrous

Corolla—Cohesion Monopetalous Color Blue Shape Insertion Hypogynous

Petals—Number Three Color Blue Form Linear Surface Glabrous

Androecium:

Stamens—Number Three Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Innate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Compound Cohesion

Stigma—Number Three Style—Number Three

Ovary—Number of Cells Three Insertion Superior Placentation Parietal

Ovules—Number Many

POLLINATION Cross - Pollination

FRUIT—Kind Capsule Dehiscence Dehiscent

HABITAT—Soil Clay Light Light Plants Water Mesophytes

LOCALITY Cedar Grove Distribution Well Distributed

REMARKS

DRAWINGS AND DIAGRAMS

No. 15 BOTANICAL SPECIMEN Page. Fifteen

Order or Family. Iridaceae

Common Name. Dwarf Iris

Genus. Iris

Species. Verna

Locality. Cedar Grove

Date. April 20, 1920

Page Sixteen

PLANT DESCRIPTION

No. 16

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Primary

STEM—Character Herbaceous Growth Exogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade - Petiole

Branching Simple - Crenate Arrangement Radical Venation Netted-veined

Form Cordate Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Solitary

Flower ..... Perfect ~~Imperfect~~ ..... Complete ~~Incomplete~~ ..... Regular ~~Irregular~~ ..... Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Polysepalous Color Light Green Shape Ovate

Sepals—Number Five Form Ovate Color Light Green Surface Glabrous

Corolla—Cohesion Polypetalous Color White Shape Labiate Insertion Hypogynous

Petals—Number Five Color White Form Ovate Surface Glabrous

Androecium:

Stamens—Number Five Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Innate Aspect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells Three Insertion Superior Placentation Parietal

Ovules—Number Many

POLLINATION Self - Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Humus Light Shade Plants Water Mesophytes

LOCALITY Brookville Ind. Distribution Not as widely distributed

REMARKS

DRAWINGS AND DIAGRAMS

No. 16 BOTANICAL SPECIMEN Page Sixteen

Order or Family... Violaceae

Common Name .... Violet Sweet White

Genus .... Viola

Species .. Blanda

Locality .... Brooksville Me.

Date... April 24, 1920

Page Seventeen

PLANT DESCRIPTION

No. 17

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Tuberous

STEM—Character Herbaceous Growth Evergreen Kind Caules-cent Direction Erect

LEAVES—Duration Deciduous Parts Blade-Petiole

Branching Compound-Palmate Arrangement Radical Venation Netted-veined

Form Ovate-Incised Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Raceme

Flower ~~Perfect~~ ~~Imperfect~~ ~~Complete~~ ~~Incomplete~~ ~~Regular~~ ~~Irregular~~ ~~Symmetrical~~ ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous Color White Shape Oblong

Sepals—Number Two Form Oblong Color White Surface Glabrous

Corolla—Cohesion Monopetalous Color White Shape Labiate Insertion Hypogynous

Petals—Number Two Color White Form Oblong Surface Glabrous

Androecium:

Stamens—Number Six Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Innate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells One Insertion Superior Placentation Parietal

Ovules—Number ~~Few~~

POLLINATION Self-Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Humus Light Shade Plants Water Mesophyte

LOCALITY Cedar Grove Woods Distribution Very Widely Distributed

REMARKS

DRAWINGS AND DIAGRAMS

Order or Family Fumariaceae

Common Name Dutchmans Breeches

Genus Dicentra

Species Cucullaria

Locality Cedar Grove Woods

Date April 21, 1920

Page Eighteen

PLANT DESCRIPTION

No. 48

PLANT—Kind Trees Duration Perennials Surface Glabrous

ROOT—Form Multiple

STEM—Character Woody Growth Endogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blades - Petiole - Stipules

Branching Simple - Dentate Arrangement Cauline - alternate Venation Netted - veined

Form Lanceolate Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Solitary

Flower ~~Imperfect~~ Perfect ~~Incomplete~~ Complete ~~Irregular~~ Regular ~~Unsymmetrical~~ Symmetrical

Perianth:

Calyx—Cohesion Monosepalous Color Brown Shape Bell - shaped

Sepals—Number Five Form Ovate Color Brown Surface Glabrous

Corolla—Cohesion Polypetalous Color Pink Shape Salver - shaped Insertion Hypogynous

Petals—Number Five Color Pink Form Ovate Surface Glabrous

Androecium:

Stamens—Number 15 to 30 Cohesion Distinct Insertion Perigynous Position

Filaments—Anthers Simple Attachment Innate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells Two Insertion Superior Placentation Parietal

Ovules—Number Many

POLLINATION Self - Pollination

FRUIT—Kind Simple - Stone - Fruit Dehiscence Indehiscent

HABITAT—Soil Humus Light Light Plant Water Mesophytes

LOCALITY Cedar Grove Distribution Scattered Distributed

REMARKS

DRAWINGS AND DIAGRAMS

No. 18 BOTANICAL SPECIMEN Page Eighteen

Order or Family Rosaceae

Common Name Peach

Genus Prunus

Species Persica

Locality Cedar Grove

Date April 12, 1920

Page Nineteen

PLANT DESCRIPTION

No. 19

PLANT—Kind Tree Duration Perennial Surface Glabrous

ROOT—Form Multiple

STEM—Character Woody Growth Endogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade - Petiole

Branching Simple Crenate Arrangement Cauline Alternate Venation Netted-veined

Form Ovate Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Head - Sessile

Flower ~~Perfect~~ ~~Imperfect~~ ~~Complete~~ ~~Incomplete~~ ~~Regular~~ ~~Irregular~~ ~~Symmetrical~~ ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous Color Bright Green Shape Salver-shaped

Sepals—Number Five Form Ovate Color Bright Green Surface Glabrous

Corolla—Cohesion Polypetalous Color White Shape Salver Insertion Hypogynous

Petals—Number Five Color White Form Ovate Surface Glabrous

Androecium:

Stamens—Number 15 to 30 Cohesion Distinct Insertion Perigynous Position

Filaments—Anthers Simple Attachment Innate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distincts

Stigma—Number One Style—Number One

Ovary—Number of Cells Two Insertion Superior Placentation Parietal

Ovules—Number Two

POLLINATION Self-Pollination

FRUIT—Kind Drupe Dehiscence Indehiscent

HABITAT—Soil Humous Light Light Plants Water Mesophytes

LOCALITY Cedars Grove Distribution Widely Distributed

REMARKS

DRAWINGS AND DIAGRAMS

No. 17

BOTANICAL SPECIMEN

Order or Family Rosaceae

Common Name Chickasaw Plum

Genus Prunus

Species Angustifolia

Locality Cedar Grove

Date April 24, 1920

Page Twenty. **PLANT DESCRIPTION** No. 20

PLANT—Kind ... Herb ..... Duration... Perennial ... Surface... Glabrous....

ROOT—Form ... Fibrous .....

STEM—Character. Herbaceous Growth. Epogenous Kind. Caulescent Direction, Erect....

LEAVES—Duration . Deciduous ..... Parts ... Blade - Petiole .....

Branching Compound - Palmate Arrangement... Radical . Venation.. Netted-veined

Form Ovate . Surface Glabrous.

INFLORESCENCE—Class ~~Indeterminate~~ Mode Solitary .....

Flower..... ~~Imperfect~~ Perfect ..... ~~Incomplete~~ Complete ..... ~~Irregular~~ Regular ..... Unsymmetrical Symmetrical .....

Perianth:

Calyx—Cohesion . Polysepalous Color..... Shape.....

Sepals—Number Four Form..... Color..... Surface. Glabrous

Corolla—Cohesion Polypetalous Color. White Shape Salver Insertion Hypogynous.

Petals—Number Eight Color. White Form Lanceolate Surface.. Glabrous

Androecium:

Stamens—Number Eight Cohesion.. Distinct Insertion Hypogynous Position.....

Filaments—Anthers.. Compound Attachment. Adnate Aspect.. Erect Dehiscence.....

Gynoecium:

Pistils—Number. One.... Kind.. Compound Cohesion.. Distinct.....

Stigma—Number .... One ..... Style—Number. One .....

Ovary—Number of Cells Two. Insertion. Superior. Placentation. Parietal....

Ovules—Number Many..

POLLINATION ..... Self - Pollination .....

FRUIT—Kind ..... Capsule ..... Dehiscence Dehiscent .....

HABITAT—Soil... Humus... Light.. Shade Plants Water.. Mesophytes....

LOCALITY ... Brookville Ind. Distribution Widely Distributed...

REMARKS An early flowering woodland eastern U.S. and N. western N.Y. to Wis. southward, to Va. and Tenn.

DRAWINGS AND DIAGRAMS

No. 20 BOTANICAL SPECIMEN Page ~~Twenty~~

Order or Family .... Berberidaceae

Common Name .... Twin Leaf

Genus .... Jeffersonia

Species .... Diphylla

Locality .... ~~Brownsville Road~~

Date .... April 23, 1920

Page Twenty-One

PLANT DESCRIPTION

No. 21

PLANT—Kind Shrub Duration Perennial Surface Glabrous

ROOT—Form Multiple

STEM—Character Woody Growth Endogenous Kind Caulescent Direction Prostrate

LEAVES—Duration Deciduous Parts Blade - Petiole

Branching Compound - Palmate Arrangement Radical Venation Netted-veined

Form Oblong Surface Glabrous.

INFLORESCENCE—Class ~~Determinate~~ Indeterminate Mode Umbel - ~~Simple~~

Flower ~~Perfect~~ Imperfect ~~Complete~~ Incomplete ~~Regular~~ Irregular ~~Symmetrical~~ Unsymmetrical

Perianth:

Calyx—Cohesion Monosepalous Color Yellow Shape Bell-shaped.

Sepals—Number Five Form Ovate Color Yellow Surface Glabrous

Corolla—Cohesion Apetalous Color Yellow Shape Bell Insertion Hypogynous.

Petals—Number Five Color Yellow Form Ovate Surface Glabrous.

Androecium:

Stamens—Number Five. Cohesion Distinct Insertion Epipetalous Position

Filaments—Anthers Compound Attachment Adnate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells Two Insertion Superior Placentation Parietal

Ovules—Number Many

POLLINATION Cross - Pollination

FRUIT—Kind Drupe Dehiscence ~~Dehiscent~~ Indehiscent

HABITAT—Soil Humus Light Light Plants Water Mesophytes

LOCALITY Cedar Grove Land Distribution Widely Distributed

REMARKS A common shrub 6' to 7' high. Mostly cultivated. Having a very aromatic odor. Blooming in April.

DRAWINGS AND DIAGRAMS

Order or Family.. Saxifragaceae
Common Name .. Golden Currant.
Genus .... Ribes
Species .. Ribes Aureum
Locality .. Cedar Grove, Lond.
Date... April 23, 1920

Page Twenty-Two

PLANT DESCRIPTION

No. 22

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Primary

STEM—Character Herbaceous Growth Exogenous Kind Caulescent Direction Prostrate

LEAVES—Duration Deciduous Parts Blade Petiole

Branching Simple Entire Arrangement Cauline & Opposite Venation Netted veined

Form Lanceolate Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Solitary

Flower ..... Perfect ~~Imperfect~~ ..... Complete ~~Incomplete~~ ..... Regular ~~Irregular~~ ..... Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Polysepalous Color Yellow with red dots Shape Bell-shaped

Sepals—Number Three Form Lanceolate Color Yellow Surface Glabrous

Corolla—Cohesion Polypetalous Color Yellow Shape Bell Insertion Hypogynous

Petals—Number Three Color Yellow Form Lanceolate Surface Glabrous

Androecium:

Stamens—Number Six Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Innate Aspect Inclined Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One 3-lobed

Ovary—Number of Cells Three Insertion Superior Placentation Free Central

Ovules—Number Many

POLLINATION Self-Pollination

FRUIT—Kind Dehiscence

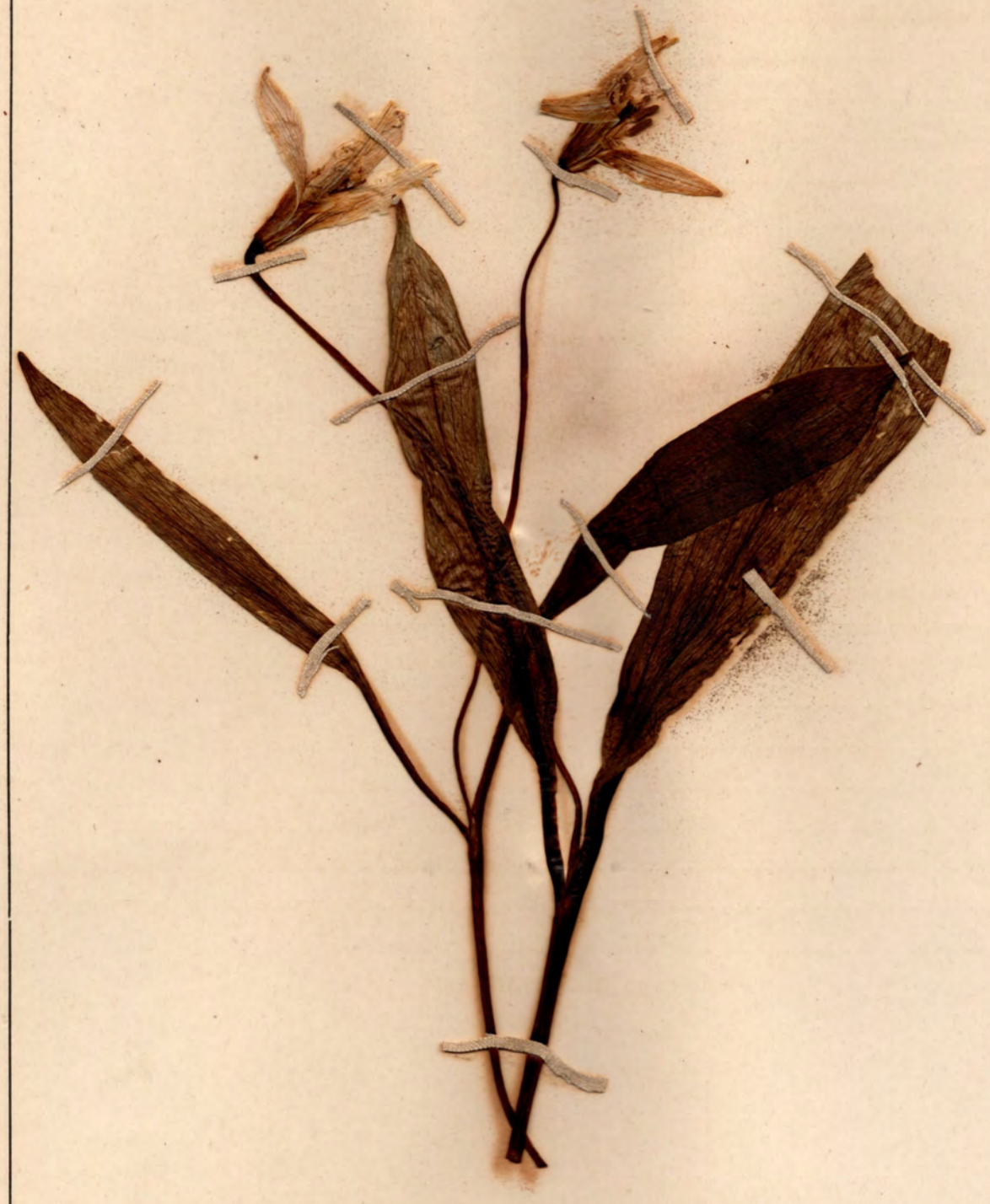
HABITAT—Soil Humus Light Shade Plant Water Mesophytes

LOCALITY Cedar Grove Woods Distribution Not so widely distributed

REMARKS A tall Willow flower found in rich woods in the eastern U. S. Blooming from April to June.

DRAWINGS AND DIAGRAMS

No. 22 BOTANICAL SPECIMEN Page Twenty-Two



Order or Family.. Liliaceae
Common Name Yellow Adder's Tongue
Genus .. Erythronium
Species .. Americanum
Locality Cedar Grove Woods
Date.... April 23, 1920

Page Twenty Three

PLANT DESCRIPTION

No. 23

PLANT—Kind Tree Duration Perennial Surface Glabrous

ROOT—Form Multiple

STEM—Character Woody Growth Endogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade - Petiole - Stipules

Branching Simple : Dentate Arrangement Cauline Alternate Venation

Form Ovate Surface Pubescent

INFLORESCENCE—Class Indeterminate Mode Umbel - Simple

Flower ..... Perfect ~~Imperfect~~ ..... Complete ~~Incomplete~~ ..... Regular ~~Irregular~~ ..... Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous Color Light Green Shape Ovate

Sepals—Number Five Form Ovate Color Light Green Surface Glabrous

Corolla—Cohesion Polypetalous Color White Shape Salver Insertion Hypogynous

Petals—Number Five Color White Form Ovate Surface Glabrous

Androecium:

Stamens—Number 20 to 30 Cohesion Distinct Insertion Perigynous Position

Filaments—Anthers Compound Attachment Innate Aspect Inclined Dehiscence

Gynoecium:

Pistils—Number One Kind Compound Cohesion Distinct

Stigma—Number Five Style—Number Five

Ovary—Number of Cells Two Insertion Superior Placentation Parietal

Ovules—Number Few

POLLINATION Self - Pollinators

FRUIT—Kind Pome Dehiscence Indehiscent

HABITAT—Soil Humous Light Light Plants Water Mesophytic

LOCALITY Cedars Grove Distribution Widely Distributed

REMARKS A long-lived, upright, Old World tree. 20 to 40° high & long cultivated for its fruit. Blooms in April & May Ripens in Sept.

DRAWINGS AND DIAGRAMS

No. 23 BOTANICAL SPECIMEN Page Twenty-three

Order or Family... Rosaceae

Common Name .. Pear

Genus ..... Pyrus

Species . communis

Locality . Cedar Grove

Date.... April 23, 1920

Page Twenty-Four

PLANT DESCRIPTION

No. 24

PLANT—Kind ... Herb ... Duration ... Perennial ... Surface ... Glabrous ...

ROOT—Form ... Tuberous ...

STEM—Character Herbaceous Growth Erogenous Kind Caulescent Direction Erect ...

LEAVES—Duration ... Deciduous ... Parts ... Blade ... Petiole ...

Branching Simple Incised Arrangement Cauline Opposite Venation ... Netted-veined

Form ... Oblong Surface ... Glabrous.

INFLORESCENCE—Class Indeterminate Mode ... Raceme ...

Flower ... Perfect ~~Imperfect~~ ... ~~Complete~~ Incomplete ... ~~Regular~~ Irregular ... ~~Symmetrical~~ Unsymmetrical ...

Perianth:

Calyx—Cohesion Polysepalous ... Color ... White ... Shape ... Obovate ...

Sepals—Number Few Form ... Obovate Color ... White ... Surface ... Glabrous

Corolla—Cohesion ... Apetalous ... Color ... Shape ... Insertion ...

Petals—Number ... Color ... Form ... Surface ...

Androecium:

Stamens—Number ... Many Cohesion ... Distinct Insertion ... Hypogynous Position ...

Filaments—Anthers ... Compound Attachment ... Innate Aspect ... Erect Dehiscence ...

Gynoecium:

Pistils—Number ... About 25 Kind ... Compound Cohesion ... Distinct ...

Stigma—Number ... Many ... 2-lobed ... Style—Number ... Many ...

Ovary—Number of Cells ... Two ... Insertion ... Hypogynous Placentation ... Parietal ...

Ovules—Number ... Many ...

POLLINATION ... Self-Pollination ...

FRUIT—Kind ... Akene ... Dehiscence ... Indehiscent ...

HABITAT—Soil ... Humus ... Light ... Shade Plant Water ... Mesophyte ...

LOCALITY ... Brookville Ind. Distribution ... Widely Distributed ...

REMARKS A small simple stemmed herb 6' to 9' high of low woods from Me. to Ga. This blooms ... April & May

DRAWINGS AND DIAGRAMS

No. 24 BOTANICAL SPECIMEN Page Twenty-Four

Order or Family... Ranunculaceae

Common Name ... Wind Flowers or Wood Anemone.

Genus ... Anemone

Species ... A. canadensis

Locality ... Brooksville, Me.

Date ... April 24, 1920

Page Twenty-Five

PLANT DESCRIPTION

No. 25

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Fibrous

STEM—Character Herbaceous Growth Epogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade Petiole

Branching Compound Pinnate Arrangement Cauline-Alternate Venation Netted-veined

Form Sagittate Surface Glabrous.

INFLORESCENCE—Class Indeterminate Mode Solitary

Flower ..... Perfect ~~Imperfect~~ ..... Complete ~~Incomplete~~ ..... Regular ~~Irregular~~ ..... Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Polysepalous Color Green Shape Ovate

Sepals—Number Five Form Ovate Color Green Surface Glabrous

Corolla—Cohesion Polypetalous Color White Shape Labiate Insertion Hypogynous

Petals—Number Five Color White Form Oblong Surface Glabrous

Androecium:

Stamens—Number Five Cohesion Monadelphous Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Innate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells Insertion Hypogynous Placentation

Ovules—Number

POLLINATION Self Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Humus Light Shade Plant Water Mesophytes

LOCALITY Cedar Grove Woods Distribution Widely Distributed

REMARKS A small flower growing in sandy soils from N. C. to Ga. and westward. Blooming from April to May

DRAWINGS AND DIAGRAMS

No. 25 BOTANICAL SPECIMEN Page Twenty-Five

Order or Family ... Violaceae

Common Name ... Lance-Leaved Violet

Genus ... Viola

Species ... Lanceolata

Locality ... Cedar Grove Woods

Date ... April 24, 1920

Page Twenty-Six

PLANT DESCRIPTION

No. 26

PLANT—Kind Herb. Duration Perennial. Surface Glabrous.

ROOT—Form Primary.

STEM—Character Herbaceous Growth Progenous Kind Caulescent Direction Prostrate

LEAVES—Duration Deciduous. Parts Blade-Petiole

Branching Simple: Entire Arrangement Cauline: Opposite Venation Netted-veined

Form Lanceolate Surface Glabrous.

INFLORESCENCE—Class Indeterminate Mode Solitary.

Flower. Perfect ~~Imperfect~~ Complete ~~Incomplete~~ Regular ~~Irregular~~ Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Polysepalous. Color White. Shape Bell-shaped.

Sepals—Number Three Form Lanceolate Color White. Surface Glabrous

Corolla—Cohesion Polypetalous Color White. Shape Bell. Insertion Hypogynous

Petals—Number ~~Three~~ Color White. Form Lanceolate. Surface Glabrous.

Androecium:

Stamens—Number Six. Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Innate Aspect Inclined Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One 2-lobed Style—Number One

Ovary—Number of Cells Three Insertion Superior Placentation Free Central

Ovules—Number Many.

POLLINATION Self Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Humus Light Shade Plants. Water Mesophyte

LOCALITY Cedar Grove Woods. Distribution Not as widely distributed

REMARKS A beautiful perennial of rich moist woods often called Dog's-tooth violet on account of the curves of the petals.

DRAWINGS AND DIAGRAMS

No. 26 BOTANICAL SPECIMEN Page Twenty-Six

Order or Family... Liliaceae
Common Name ... White Adder's Tongue
Genus ... Erythronium
Species ... Albidum
Locality ... Cedar Grove Woods
Date ... April 24, 1920

PLANT DESCRIPTION

No. 27

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Fibrous

STEM—Character Herbaceous Growth Exogenous Kind Acaulescent Direction Repent

LEAVES—Duration Deciduous Parts Blade

Branching Simple-Entire Arrangement Cauline-Opposite Venation Netted-veined

Form Lanceolate Surface Glabrous

INFLORESCENCE—Class Determinate Mode Cyme

Flower Perfect ~~Imperfect~~ Complete ~~Incomplete~~ Regular ~~Irregular~~ Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous-Lobed Color ~~Pink~~ Green Shape Tubular-bellshaped

Sepals—Number Five Form Lanceolate Color Green Surface Glabrous

Corolla—Cohesion Monopetalous Color Pink-Purple Shape Salver Insertion Hypogynous

Petals—Number Five Color Pink-Purple Form Oblong Surface Glabrous

Androecium:

Stamens—Number Five Cohesion Distinct Insertion Epipetalous Position

Filaments—Anthers Simple Attachment Adnate Aspect Inclined Dehiscence

Gynoecium:

Pistils—Number One Kind Compound Cohesion Distinct

Stigma—Number Three Style—Number One

Ovary—Number of Cells One Insertion Superior Placentation Parietal

Ovules—Number Few

POLLINATION Self-Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Humus Light Light Plant Water Mesophyte

LOCALITY Cedar Grove, Ind. Distribution Very Widely Distributed

REMARKS A sweet-scented, blue flower found growing wild in rich woods and moist grounds of the eastern U.S.

DRAWINGS AND DIAGRAMS

Order or Family Polemoniaceae

Common Name Wild Sweet William

Genus Phlox

Species P. acuminata

Locality Cedars Grove, Ind.

Date April 24, 1920

Page Twenty-Eight

PLANT DESCRIPTION

No. 28

PLANT—Kind Shrub Duration Perennial Surface Glabrous

ROOT—Form Fibrous

STEM—Character Woody Growth Exogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade Petiole

Branching Simple Dentate Arrangement Cauline Opposite Venation Netted-veined

Form Ovate Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Corymb

Flower ~~Perfect~~ ~~Imperfect~~ ~~Complete~~ ~~Incomplete~~ ~~Regular~~ ~~Irregular~~ ~~Symmetrical~~ ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous Color Brownish Red Shape Oblong

Sepals—Number Five Form Ovate Color Brownish Red Surface Glabrous

Corolla—Cohesion Monopetalous Color Scarlet Red Shape Ovate Insertion Hypogynous

Petals—Number Five Color Scarlet Red Form Ovate Surface Glabrous

Androecium:

Stamens—Number Many Cohesion Distinct Insertion Perigynous Position

Filaments—Anthers Compound Attachment Adnate Aspect Inclined Dehiscence

Gynoecium:

Pistils—Number One Kind Compound Cohesion Distinct

Stigma—Number Five Style—Number Five

Ovary—Number of Cells Four Insertion Hypo Placentation Parietal

Ovules—Number Many

POLLINATION Self-Pollination

FRUIT—Kind Akene Dehiscence

HABITAT—Soil Humus Light Light Plant Water Mesophyte

LOCALITY Cedar Grove Distribution Widely Distributed

REMARKS

DRAWINGS AND DIAGRAMS

No. 28

BOTANICAL SPECIMEN

Page Twenty-Eight

Order or Family ... Rosaceae

Common Name ... Japan Quince

Genus ... Cydonia

Species ... Japonica

Locality ... Cedar Grove

Date ... April 26, 1920

Page Twenty-Nine

PLANT DESCRIPTION

No. 29

PLANT—Kind Hairy Duration Perennial Surface Pubescent

ROOT—Form Tuberous-Fibrous

STEM—Character Herbaceous Growth Exogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade-Petiole

Branching Simple-Parted Arrangement Radical Venation Netted veined

Form Oblong Surface Pubescent.

INFLORESCENCE—Class Indeterminate Mode Solitary

Flower ~~Perfect~~ Imperfect ~~Complete~~ Incomplete ~~Regular~~ Irregular ~~Symmetrical~~ Unsymmetrical

Perianth:

Calyx—Cohesion Monosepalous Color Light Green Shape Ovate

Sepals—Number Four Form Ovate Color Light Green Surface Pubescent

Corolla—Cohesion Polypetalous Color Yellow Shape Salver Insertion Hypogynous

Petals—Number Four Color Yellow Form Oblong Surface Glabrous

Androecium:

Stamens—Number Many Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Innate Aspect Inclined Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells Two Insertion Superior Placentation Free Central

Ovules—Number Many

POLLINATION Self Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Common Light Shade Plant Water Mesophyte

LOCALITY Cedar Grove Woods Distribution Widely Distributed

REMARKS A tall common buttercup found in the meadows and pastures of northern and eastern U. S.

DRAWINGS AND DIAGRAMS

No. 29 BOTANICAL SPECIMEN Page Twenty-Nine

Order or Family ..Ranunculaceae
Common Name ..Later Buttercup.
Genus ...Ranunculus.....
Species ...Acris.....
Locality ..Cedar...Grove Woods.
Date.....April 27, 1920.....

Page Thirty.... PLANT DESCRIPTION No....30.....

PLANT—Kind .Herb..... Duration...Perennial.. Surface.Pubescent....

ROOT—Form .....Fibrous.....

STEM—Character.Herbaceous Growth.Exogenous Kind..Pubescent Direction..Erect....

LEAVES—Duration ..Deciduous.....Parts ..Blade...Petiole...Stipules

Branching Simple...Separate Arrangement.Radical. Venation.Netted-veined

Form.Cordate Surface.Pubescent.

INFLORESCENCE—Class ..Indeterminate Mode Solitary.....

Flower..... Perfect ~~Imperfect~~ ..... Complete ~~Incomplete~~ ..... Regular ~~Irregular~~ ..... Symmetrical ~~Unsymmetrical~~ .....

Perianth:

Calyx—Cohesion ..Polysepalous Color...Green..... Shape...Lanceolate

Sepals—Number...Five. Form Lanceolate Color..Green.... Surface.Pubescent

Corolla—Cohesion ..Polypetalous Color.Yellow. Shape.Lobate Insertion.Hypogynous.

Petals—Number.Five Color.Yellow...Form..Ovate... Surface..Pubescent.

Androecium:

Stamens—Number..Five Cohesion.Distinct Insertion.Hypogynous Position.....

Filaments—Anthers.Simple Attachment.Innate Aspect.Erect Dehiscence.....

Gynoecium:

Pistils—Number...One... Kind...Simple.... Cohesion..Distinct.....

Stigma—Number ..One..... Style—Number..One.....

Ovary—Number of Cells.Three. Insertion.Superior.... Placentation.Parietal.....

Ovules—Number..Many..

POLLINATION .....Self-Pollination.....

FRUIT—Kind .....Dehiscence.....

HABITAT—Soil..Humus..... Light..Shade Plant.. Water..Mesophyte....

LOCALITY ..Cedar Grove Land...Distribution Well Distributed.....

REMARKS .....

.....

DRAWINGS AND DIAGRAMS

No. 30 BOTANICAL SPECIMEN Page Thirty

Order or Family Violaceae
Common Name Downy Yellow Violet
Genus Viola
Species Pubescens
Locality Cedar Grove, Ind.
Date April 27, 1920

PLANT DESCRIPTION

No. 31

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Fibrous

STEM—Character Herbaceous Growth Exogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade Petiole

Branching Simple Crenate Arrangement Cauline Opposite Venation Netted veined

Form Reniform Surface Pubescent

INFLORESCENCE—Class Indeterminate Mode Spike

Flower ..... ~~Imperfect~~ Perfect ..... ~~Incomplete~~ Complete ..... ~~Irregular~~ Regular ..... ~~Unsymmetrical~~ Symmetrical

Perianth:

Calyx—Cohesion Monosepalous Color Light Green Shape Tubular

Sepals—Number Six Form Lanceolate Color Light Green Surface Pubescent

Corolla—Cohesion Monopetalous Color Bluish purple Shape Labiate Insertion Hypogynous

Petals—Number Six Color Bluish purple Form Lanciolate Surface Glabrous

Androecium:

Stamens—Number Four Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Sessile Attachment Innate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Compound Cohesion Distinct

Stigma—Number Three Style—Number One

Ovary—Number of Cells One Insertion Hypogynous Placentation Parietal

Ovules—Number Few

POLLINATION Self-Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Humus Light Shade Plants Water Mesophyte

LOCALITY Cedar Grove, Ind. Distribution Rackley Distributed

REMARKS

DRAWINGS AND DIAGRAMS

No. 31 BOTANICAL SPECIMEN Page Thirty-One

Order or Family Labiatae

Common Name Ground Ivy

Genus Nepeta

Species Glechoma

Locality Brookville, Ind.

Date April 27, 1920

Page Thirty-Two

PLANT DESCRIPTION

No. 32

PLANT—Kind Herb Duration Annual Surface Glabrous

ROOT—Form Tuberous

STEM—Character Herbaceous Growth Exogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade Petiole

Branching Simple Lobed Arrangement Cauline Opposite Venation Parallel

Form Ovate Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Umbel

Flower ..... Perfect ~~Imperfect~~ ..... Complete ~~Incomplete~~ ..... Regular ~~Irregular~~ ..... Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Polysepalous Color Green Shape Ligulate

Sepals—Number Four Form Obovate Color Green Surface Glabrous

Corolla—Cohesion Polypetalous Color White Shape Ligulate Insertion Hypogynous

Petals—Number Four Color White Form Obovate Surface Glabrous

Androecium:

Stamens—Number Four Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Innate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells 1 to 3 Insertion Superior Placentation Basal

Ovules—Number Four

POLLINATION Self Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Humus Light Shade Plants Water Mesophytes

LOCALITY Cedar Grove Distribution Well Distributed

REMARKS

DRAWINGS AND DIAGRAMS

No. 32 BOTANICAL SPECIMEN Page Thirty-Two.

Order or Family Umbelliferæ

Common Name Pepper and Salt

Genus Erigenia

Species Bulbosa

Locality Cedar Grove

Date April 29, 1920

Page Thirty-Three

PLANT DESCRIPTION

No. 33

PLANT—Kind Herb Duration Perennial Surface Pubescent

ROOT—Form Fibrous

STEM—Character Herbaceous Growth Epigeous Kind Caulescent Direction Prostrate

LEAVES—Duration Deciduous Parts Blade & Petiole

Branching Simple & Entire Arrangement Radical Venation Netted-veined

Form Cordate Surface Pubescent.

INFLORESCENCE—Class Indeterminate Mode Solitary

Flower ~~Perfect~~ ~~Imperfect~~ ~~Complete~~ ~~Incomplete~~ ~~Regular~~ ~~Irregular~~ ~~Symmetrical~~ ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous Color Green Shape

Sepals—Number Four Form Ovate Color Dark Green Surface Pubescent

Corolla—Cohesion Polypetalous Color Bluish White Shape Tubular Insertion Hypogynous

Petals—Number Six Color Bluish White Form Oblong Surface Glabrous

Androecium:

Stamens—Number Many Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Adnate Aspect Inclined Dehiscence

Gynoecium:

Pistils—Number Several Kind Simple Cohesion Distinct

Stigma—Number Several Style—Number Several

Ovary—Number of Cells Two Insertion Hypogynous Placentation Parietal

Ovules—Number Many

POLLINATION Self Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Humus Light Shade Plant Water Mesophyte

LOCALITY Brookville Road Distribution Wall Distributed

REMARKS

DRAWINGS AND DIAGRAMS

No. 33 BOTANICAL SPECIMEN Page Thirty-Three

Order or Family Ranunculaceae

Common Name Hepatica or Liverleaf.

Genus Hepatica

Species Triloba

Locality Brookville Ind.

Date April 28, 1920

PLANT DESCRIPTION

No. 34

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Tuberous

STEM—Character Herbaceous Growth Endogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade

Branching Simple - Entire Arrangement Cauline Whorl Venation Parallel-veined

Form Lanceolate Surface Glabrous.

INFLORESCENCE—Class Indeterminate Mode Raceme

Flower Perfect ~~Imperfect~~ Complete ~~Incomplete~~ Regular ~~Irregular~~ Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Polysepalous (Perianth Flower) Color Orange Shape Bell-shaped

Sepals—Number Six Form Lanceolate Color Orange Surface Glabrous.

Corolla—Cohesion Polypetalous Color Orange Shape Bell- Insertion Hypogynous.

Petals—Number Six Color Orange Form Lanceolate Surface Glabrous.

Androecium:

Stamens—Number Six Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Adnate Aspect Inclined Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One - 3-lobed Style—Number One

Ovary—Number of Cells Three Insertion Superior Placentation Parietal

Ovules—Number Many

POLLINATION Self-Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Humus Light Light Plant Water Mesophyte

LOCALITY Cedar Grove, Ind. Distribution Not widely distributed

REMARKS A stately plant of old fashioned country gardens from Persia, drooping in a crown-like umbel May

DRAWINGS AND DIAGRAMS

No. 34 BOTANICAL SPECIMEN Page Thirty-Four

Order or Family Liliaceae

Common Name Crown Imperial

Genus Fritillaria

Species Imperialis

Locality Cedar Grove, Ind.

Date April 28, 1920

Page Thirty Five

PLANT DESCRIPTION

No. 35

PLANT—Kind Herb Duration Perennial Surface Pubescent

ROOT—Form Fibrous

STEM—Character Herbaceous Growth Erect Kind Blade Direction Diffuse

LEAVES—Duration Persistent Parts Blade

Branching Compound Pinnate Arrangement Cauline Alternate Venation Netted veined

Form Linear Surface Pubescent

INFLORESCENCE—Class Indeterminate Mode Raceme Compound

Flower ..... Perfect ~~Imperfect~~ ..... Complete ~~Incomplete~~ ..... Regular ~~Irregular~~ ..... Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous Color Green Shape Tubular

Sepals—Number Five Form Linear Color Green Surface Pubescent

Corolla—Cohesion Monopetalous Color Light Purple Shape Salver Insertion Hypogynous

Petals—Number Five Color Light Purple Form Oblong Surface Pubescent

Androecium:

Stamens—Number Five Cohesion Distinct Insertion Epipetalous Position

Filaments—Anthers Simple Attachment Innate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells Two Insertion Hypogynous Placentation Parietal

Ovules—Number Few

POLLINATION Self Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Sandy Light Light Plants Water Mesophytes

LOCALITY Cedar Grove, Ind. Distribution Widely Distributed

REMARKS A creeping tufted evergreen flower found in dry sandy soils from southern N. Y. to Ala. and W. Ky.

DRAWINGS AND DIAGRAMS

No. 35

BOTANICAL SPECIMEN

Order or Family... Polemoniaceae

Common Name Ground or Moss Pink

Genus ... Phlox

Species ... subulata

Locality ... Cedar Grove, Ind.

Date ... April 25, 1920

Page Thirty-Six

PLANT DESCRIPTION

No. 36

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Fibrous

STEM—Character Herbaceous Growth Exogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade Petiole

Branching Compound Entire Arrangement Radical Opposite Vernation Plaited

Form Ovate Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Raceme

Flower ~~Imperfect~~ Perfect ~~Incomplete~~ Complete ~~Irregular~~ Regular ~~Unsymmetrical~~ Symmetrical

Perianth:

Calyx—Cohesion Monosepalous Color Bright Green Shape Bell

Sepals—Number Five Form Lanceolate Color Bright Green Surface Glabrous

Corolla—Cohesion Monopetalous Color Violet Shape Bell Insertion Hypogynous

Petals—Number Five Color Violet Form Ovate Surface Glabrous

Androecium:

Stamens—Number Five Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Innate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Compound Cohesion Distinct

Stigma—Number Two Style—Number One

Ovary—Number of Cells One Insertion Superior Placentation Parietal

Ovules—Number Many

POLLINATION Self-Pollination

FRUIT—Kind Capsule Dehiscence Dehiscent

HABITAT—Soil Humus Light Shade Plant Water Mesophyte

LOCALITY Cedar Grove Land Distribution Very Widely Distributed

REMARKS

DRAWINGS AND DIAGRAMS

No. 36 BOTANICAL SPECIMEN Page Thirty-Six

Order or Family. Hydrophyllaceae

Common Name. Virginian Waterleaf

Genus ... Hydrophyllum

Species .. Virginicum

Locality Cedar Grove, Ind.

Date. April 29, 1920

Page Thirty-Seven

PLANT DESCRIPTION

No. 37

PLANT—Kind Tree Duration Perennial Surface Glabrous

ROOT—Form Multiple

STEM—Character Woody Growth Endogenous Kind Caulescent Direction Prostrate

LEAVES—Duration Deciduous Parts Blade - Petiole

Branching Simple Crenate Arrangement Cauline Alternate Venation Pinnate

Form Ovate Surface Pubescent

INFLORESCENCE—Class Indeterminate Mode Corymbose

Flower ~~Perfect~~ Imperfect ~~Complete~~ Incomplete ~~Regular~~ Irregular ~~Symmetrical~~ Unsymmetrical

Perianth:

Calyx—Cohesion Monosepalous Color Green Shape Ligulate

Sepals—Number Five Form Oblong Color Green Surface Pubescent

Corolla—Cohesion Polypetalous Color White & Pink Shape Ligulate Insertion Perigynous

Petals—Number Five Color White & Pink Form Oblong Surface Glabrous

Androecium:

Stamens—Number 20 Cohesion Distinct Insertion Perigynous Position

Filaments—Anthers Compound Attachment Versatile Aspect Inclined Dehiscence

Gynoecium:

Pistils—Number One Kind Compound Cohesion Distinct

Stigma—Number Five Style—Number One

Ovary—Number of Cells Two Insertion Hypogynous Placentation Parietal

Ovules—Number Many

POLLINATION Self - Pollination

FRUIT—Kind Pome Dehiscence Indehiscent

HABITAT—Soil Grasses Light Light Plant Water Mesophytes

LOCALITY Brookside, Iowa Distribution Very Widely Distributed

REMARKS A round headed, Old World Tree cultivated in temperate regions for its fruit. Blooms in April & May. Ripens from June to Oct.

DRAWINGS AND DIAGRAMS

Order or Family ... Rosaceae

Common Name ... Apple

Genus ... Pyrus

Species ... M. sylvestris

Locality ... Cedarsville, Ind.

Date ... April 29, 1920

Page Thirty-Eight. **PLANT DESCRIPTION** No. 38

PLANT—Kind Shrub Duration Perennials Surface Glabrous

ROOT—Form Fibrous

STEM—Character Woody Growth Exogenous Kind Caulescent Direction Prostrate

LEAVES—Duration Deciduous Parts Blade-Petiole

Branching Simple-Crenate Arrangement Spiral Alternate nation Netted-veined

Form Oblong Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Raceme

Flower ~~Perfect~~ Imperfect ~~Complete~~ Incomplete ~~Regular~~ Irregular Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Polysepalous Color Green Shape Salver

Sepals—Number Five Form Ovate Color Green Surface Glabrous

Corolla—Cohesion Polypetalous Color Pink Shape Tubular Insertion Hypogynous

Petals—Number Many Color Purple Form Ovate Surface Glabrous

Androecium:

Stamens—Number Five Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Adnate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells Three Insertion Inferior Placentation Basal

Ovules—Number Few

POLLINATION Cross-Pollinators

FRUIT—Kind Dehiscence

HABITAT—Soil Sandy Light Light Plants Water Mesophytes

LOCALITY Cedar Grove Distribution Scarce

REMARKS Low this flower many of the stamens have changed to petals due to cultivation Blooms in April

DRAWINGS AND DIAGRAMS

No. 38 BOTANICAL SPECIMEN Page Thirty-Eight.

Order or Family ..... Rosaceae .....
Common Name ..... Flowering Almond .....
Genus ..... Prunus .....
Species ..... Prunus glandulosus .....
Locality ..... Cedar Grove, Ind. .....
Date ..... May 4, 1920 .....

Page Thirty-Nine

PLANT DESCRIPTION

No. 39

PLANT—Kind Herb Duration Perennial Surface Pubescent

ROOT—Form Fibrous

STEM—Character Herbaceous Growth Exogenous Kind Pubescent Direction Erect

LEAVES—Duration Deciduous Parts Blade - Petiole

Branching Simple - Dentate Arrangement Radical Venation Netted-veined

Form Oblong Surface Pubescent

INFLORESCENCE—Class Indeterminate Mode Umbel - Simple

Flower ..... Perfect ~~Imperfect~~ ..... Complete ~~Incomplete~~ ..... Regular ~~Irregular~~ ..... Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous Color Light Green Shape Funnel

Sepals—Number Five Form Oblong Color Light Green Surface Pubescent

Corolla—Cohesion Monopetalous Color Dark Red Shape Salver Insertion Hypogynous

Petals—Number Five Color Dark Red Form Ovate Surface Glabrous

Androecium:

Stamens—Number Five Cohesion Distinct Insertion Epipetalous Position

Filaments—Anthers Simple Attachment Dorsal Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells Two Insertion Superior Placentation Parietal

Ovules—Number Many

POLLINATION Self Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Humus Light Light Plant Water Mesophyte

LOCALITY Brookville Ind. Distribution Well Distributed

REMARKS A low cultivated shrub of European and British species blooming in April & May

DRAWINGS AND DIAGRAMS

No. 39 BOTANICAL SPECIMEN Page Thirty-Nine

Order or Family .. Primulaceae
Common Name .. English Cowslip
Genus .. Primula
Species .. Officinalis
Locality .. Bookville Ind.
Date .. April 30, 1920

PLANT DESCRIPTION

No. 40

PLANT—Kind Shrub Duration Perennial Surface Glabrous

ROOT—Form Multiple

STEM—Character Woody Growth Exogenous Kind Caulescent Direction Prostrate

LEAVES—Duration Deciduous Parts Blade Petiole

Branching Compound-Palmate Arrangement Cauline Whorled Venation Netted-veined

Form Obovate Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Corymb

Flower Perfect ~~Imperfect~~ Complete ~~Incomplete~~ Regular ~~Irregular~~ Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous Color Green Shape Salver

Sepals—Number Five Form Ovate Color Green Surface Glabrous

Corolla—Cohesion Polypetalous Color White Shape Ligulate Insertion Hypogynous

Petals—Number Numerous Color White Form Ovate Surface Glabrous

Androecium:

Stamens—Number Several Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Innate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells One Insertion Superior Placentation Parietal

Ovules—Number Few

POLLINATION Cross-Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Humus Light Light Plant Water Mesophyte

LOCALITY Cedar Grove, Ind. Distribution Widely Distributed

REMARKS A cultivated shrub in which many of the stamens have turned to petals. Blooms in April and May.

DRAWINGS AND DIAGRAMS

No. 40 BOTANICAL SPECIMEN Page. Forty.

Order or Family Rosaceae
Common Name Hybrid Snow Garland
Genus Spiraea
Species Spiraea arguta
Locality Cedar Grove, Ind.
Date May 2, 1920

PLANT DESCRIPTION

No. 41

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Fibrous

STEM—Character Herbaceous Growth Exogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade Petiole

Branching Compound-Opposite Arrangement Cauline Venation Netted-veined

Form Oblong Surface Pubescent

INFLORESCENCE—Class Indeterminate Mode Solitary

Flower Perfect ~~Imperfect~~ Complete ~~Incomplete~~ Regular ~~Irregular~~ Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Polysepalous Color Light Yellow Shape Lanceolate

Sepals—Number Five Form Ovate Color Light Yellow Surface Pubescent

Corolla—Cohesion Polypetalous Color Bright Yellow Shape Lance Insertion Hypogynous

Petals—Number Five Color Bright Yellow Form Ovate Surface Glabrous

Androecium:

Stamens—Number Many Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Innate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number Many Kind Compound Cohesion Syngenesious

Stigma—Number Many Style—Number Many

Ovary—Number of Cells One Insertion Superior Placentation Basal

Ovules—Number Few

POLLINATION Self-Pollination

FRUIT—Kind Akene Dehiscence Indehiscent

HABITAT—Soil Clay Light Shade Plants Water Mesophyte

LOCALITY Cedar Grove Woods Distribution Widely Distributed

REMARKS A low erect flower 6' to 10' high in rocky woods or hills in eastern part of U.S. Blooms in April & May.

DRAWINGS AND DIAGRAMS

No. 41 BOTANICAL SPECIMEN Page Forty-Two.

Order or Family... Ranunculaceae
Common Name Early Crowfoot
Genus ..Ranunculus
Species ..Fascicularis
Locality Cedar Grove Woods.
Date... May 3, 1926

PLANT DESCRIPTION

No. 42

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Tuberous

STEM—Character Herbaceous Growth Exogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade-Petiole

Branching Compound: Palmate Arrangement Cauline Whorled Venation Netted-veined

Form Lanceolate Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Solitary Spadix

Flower ~~Perfect~~ Imperfect ~~Complete~~ Incomplete ~~Regular~~ Irregular ~~Symmetrical~~ Unsymmetrical

Perianth:

Calyx—Cohesion Spathe-Monosepalous Color Green with stripes of purple Shape Pulpit

Sepals—Number One Form Lanceolate Color Green & purple Surface Glabrous

Corolla—Cohesion Spathe-Monopetalous Color Green & purple Shape Pulpit Insertion Hypogynous

Petals—Number One Color Green & purple Form Pulpit Surface Glabrous

Androecium:

Stamens—Number None Cohesion — Insertion — Position —

Filaments—Anthers — Attachment — Aspect — Dehiscence —

Gynoecium:

Pistils—Number One Kind Compound Cohesion Distinct

Stigma—Number Many Style—Number One

Ovary—Number of Cells One Insertion Superior Placentation Parietal

Ovules—Number Few

POLLINATION Cross-Pollination

FRUIT—Kind Berries Dehiscence Indehiscent

HABITAT—Soil Humus Light Shade Plant Water Mesophyte

LOCALITY Cedar Grove Woods Distribution Well Distributed

REMARKS A common flower, often diecious, bearing only staminate or pistillate flowers blooming from April to June

DRAWINGS AND DIAGRAMS

No. 42 BOTANICAL SPECIMEN Page. Forty-Two.

Order or Family. Araceae

Common Name Jack-in-the-Pulpit

Genus Arisaema

Species Triphyllum

Locality Sanbars Grove, Woods.

Date May 3, 1920

Page Forty-Three

PLANT DESCRIPTION

No. 43

PLANT—Kind Tree Duration Perennial Surface Pubescent

ROOT—Form Multiple

STEM—Character Woody Growth Exogenous Kind Pubescent Direction Reclined

LEAVES—Duration Deciduous Parts Blade Petiole

Branching Simple Separate Arrangement Pulvinate Venation Netted-veined

Form Round Surface Pubescent

INFLORESCENCE—Class Indeterminate Mode Umbel Simple

Flower ~~Perfect~~ ~~Imperfect~~ ~~Complete~~ ~~Incomplete~~ ~~Regular~~ ~~Irregular~~ ~~Symmetrical~~ ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous Color Red Shape Bell-shaped

Sepals—Number Five Form Ovate Color Red Surface Pubescent

Corolla—Cohesion Polypetalous Color Rose-purple Shape Salviter Insertion Hypogynous

Petals—Number Five Color Rose-purple Form Ovate Surface Glabrous

Androecium:

Stamens—Number Few Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Simple Attachment Adnate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells One Insertion Superior Placentation Parietal

Ovules—Number Few

POLLINATION Self Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Sandy Light Light Plant Water Mesophyte

LOCALITY Cedar Grove Distribution Very Widely Distributed

REMARKS A small tree 20 to 30 ft high common on rich soils from the northern to eastern U.S. Blooming in April before leaves appear

DRAWINGS AND DIAGRAMS

No. 43 BOTANICAL SPECIMEN Page Forty-Three

Order or Family... Leguminosae

Common Name Redbud, American Judas Tree

Genus ... Cercis

Species C. canadensis

Locality ... Cedar Point, Ind.

Date ... May 4, 1920

Page. Forty-Four

PLANT DESCRIPTION

No. 44

PLANT—Kind .... Herb.... Duration.... Perennial.. Surface.... Glabrous.

ROOT—Form .... Primary.....

STEM—Character. Herbacous Growth.. Exogenous Kind. Caulescent Direction.. Erect..

LEAVES—Duration .. Deciduous .....Parts .. Blade.. Petiole.....

Branching Simple..... Arrangement.. Radical. Venation.. Netted.....

Form. Lanceolate Surface.. Pubescent.

INFLORESCENCE—Class Indeterminate Mode .. Raceme.....

Flower..... Perfect ~~Imperfect~~ ..... Complete ~~Incomplete~~ ..... Regular ~~Irregular~~ ..... Symmetrical ~~Unsymmetrical~~ .....

Perianth:

Calyx—Cohesion ... Polysepalous. Color. Light Green Shape.. Bell.....

Sepals—Number Five. Form... Ovate... Color.. Light Green Surface.. Pubescent.

Corolla—Cohesion Polypetalous Color. White. Shape.. Bell... Insertion Hypogynous.

Petals—Number. Five. Color. White.....Form... Ovate... Surface.. Glabrous.

Androecium:

Stamens—Number. Five. Cohesion.. Distinct Insertion Hypogynous Position.....

Filaments—Anthers... Simple Attachment Innate Aspect.. Erect to Dehiscence.....

Gynoecium:

Pistils—Number... One... Kind.. Simple..... Cohesion. Distinct.....

Stigma—Number .... One..... Style—Number.. One.....

Ovary—Number of Cells. Two. Insertion Inferior... Placentation... Basal....

Ovules—Number. Many.

POLLINATION .....Self.... Pollination.....

FRUIT—Kind ... Achene.....Dehiscence .... Dehiscent.....

HABITAT—Soil... Clay..... Light.. Light.. Plants. Water. Mesophyte....

LOCALITY . Cedar Grove, Ind... Distribution Very Generally Distributed

REMARKS . A very common weed, naturalized from Europe. Growing from 6" to 20" high and blooming from April to Sept.

DRAWINGS AND DIAGRAMS

No. 44 BOTANICAL SPECIMEN Page Forty Four

Order or Family Cruciferae

Common Name Shepherd's Purse

Genus Capsella

Species Bursa-pastoris

Locality Cedar Grove, Ind.

Date May 5, 1920

Page Forty-Five

PLANT DESCRIPTION

No. 45

PLANT—Kind Herb Duration Perennial Surface Pubescent

ROOT—Form Fibrous

STEM—Character Herbaceous Growth Exogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade - Petiole

Branching Compound - Palmate Arrangement Cauline Alternate Venation Netted

Form Lanceolate Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Raceme

Flower ..... Perfect ~~Imperfect~~ ..... Complete ~~Incomplete~~ ..... ~~Regular~~ Irregular ..... ~~Symmetrical~~ Unsymmetrical .....

Perianth:

Calyx—Cohesion Polysepalous Color White to Purple Shape Salver

Sepals—Number Five Form Ovate Color White to Purple Surface Glabrous

Corolla—Cohesion Polypetalous Color White Shape Bell Insertion Hypogynous

Petals—Number Four Color White Form Ovate Surface Glabrous

Androecium:

Stamens—Number Many Cohesion Distinct Insertion Hypogynous Position .....

Filaments—Anthers Unique Attachment Adnate Aspect Erect Dehiscence .....

Gynoecium:

Pistils—Number Three Kind Compound Cohesion Distinct

Stigma—Number Three Style—Number Three

Ovary—Number of Cells Three Insertion Inferior Placentation Parietal

Ovules—Number Many

POLLINATION Self Pollination

FRUIT—Kind ..... Dehiscence .....

HABITAT—Soil Clay Light Light Plants Water Mesophytes

LOCALITY Cedar Grove Land Distribution Very Widely Distributed

REMARKS A small flowered 1 to 2 high of prairies and open grounds from Ill. to Fla. and westward May, June.

DRAWINGS AND DIAGRAMS

No. 45 BOTANICAL SPECIMEN Page Forty-Five

Order or Family... Ranunculaceae

Common Name ... Tall ... Larkspur.

Genus ... Delphinium

Species ... Exaltatum

Locality ... Cedar Grove Ind.

Date ... May 5, 1920

Page Forty-Six

PLANT DESCRIPTION

No. 46

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Fibrous

STEM—Character Herbaceous Growth Exogenous Kind Caulescent Direction Diffuse

LEAVES—Duration Deciduous Parts Blade Petiole

Branching Compound Palmate Arrangement Caulin Opposite Venation Netted

Form Obovate Surface Pubescent

INFLORESCENCE—Class Indeterminate Mode Solitary

Flower Perfect ~~Imperfect~~ Complete ~~Incomplete~~ Regular ~~Irregular~~ Symmetrical ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous Color Green Shape Ovate

Sepals—Number Five Form Ovate Color Green Surface Pubescent

Corolla—Cohesion Polypetalous Color White Shape Ligulate Insertion Hypogynous

Petals—Number Five Color White Form Ovate Surface Pubescent

Androecium:

Stamens—Number Many Cohesion Distinct Insertion Hypogynous Position

Filaments—Anthers Compound Attachment Adnate Aspect Prostrate Dehiscence

Gynoecium:

Pistils—Number One Kind Compound Cohesion Distinct

Stigma—Number Many Style—Number Many

Ovary—Number of Cells Three Insertion Inferior Placentation Parietal

Ovules—Number Many

POLLINATION Self Pollination

FRUIT—Kind Berry Dehiscence

HABITAT—Soil Humus Light Light Plant Water Mesophyte

LOCALITY Cedar Grove, Ind. Distribution Very Widely Distributed

REMARKS A small herb with runners mostly instead of stems. This blooms in May and ripens in June

DRAWINGS AND DIAGRAMS

No. 46 BOTANICAL SPECIMEN Page. Forty-Six

Order or Family Rosaceae

Common Name Garden Strawberry

Genus Fragaria

Species Chilensis

Locality Cedar Grove, Ind.

Date May 6, 1920

Page. Forty-Seven

PLANT DESCRIPTION

No. 47

PLANT—Kind .... Herb ..... Duration... Perennial ... Surface.... Glabrous.

ROOT—Form ..... Tuberous .....

STEM—Character Herbaceous Growth. Exogenous Kind. Caulescent Direction.. Prostrate

LEAVES—Duration . Deciduous ..... Parts .. Blade - Petiole .....

Branching . Compound - Palmate Arrangement. Radical Venation. Netted - veined

Form Ovate - Ovate Surface. Glabrous

INFLORESCENCE—Class ... Indeterminate Mode Recese .....

Flower..... ~~Perfect~~ Imperfect ..... ~~Complete~~ Incomplete ..... ~~Regular~~ Irregular ..... ~~Symmetrical~~ Unsymmetrical .....

Perianth:

Calyx—Cohesion . Monosepalous Color.. White ..... Shape..... Oblong.

Sepals—Number Two.. Form. Oblong.... Color. White.... Surface.. Glabrous.

Corolla—Cohesion Mesopetalous Color. Greenish White Shape Salvate Insertion.....

Petals—Number Two.. Color Greenish White. Form Labiate Surface. Glabrous.

Androecium:

Stamens—Number.. Six. Cohesion Monadelphous Insertion Epipetalous Position.....

Filaments—Anthers Simple... Attachment Innate Aspect. Erect Dehiscence.....

Gynoecium:

Pistils—Number.. One.... Kind. Simple..... Cohesion. Distinct.....

Stigma—Number .. One..... Style—Number.. One .....

Ovary—Number of Cells. One. Insertion. Superior. Placentation. Parietal.

Ovules—Number. Few....

POLLINATION ..... Self - Pollination .....

FRUIT—Kind ..... Dehiscence .....

HABITAT—Soil... Humus.... Light. Shade .. Plant Water. Mesophytes.

LOCALITY Cedar Grove Woods... Distribution . Widely Distributed..

REMARKS .. This flowers resembles Dutchmen's Breeches in range foliage and etc. But the spurs are short, obtuse, rounded, crotch like Indian corn.

DRAWINGS AND DIAGRAMS

No. 47 BOTANICAL SPECIMEN Page Forty-Seven

Order or Family Fumariaceae
Common Name ~~Squirrel Corn~~
Genus Dicentra
Species Canadensis
Locality Cedar Grove Woods
Date May 6, 1920

PLANT DESCRIPTION

No. 48

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Fibrous

STEM—Character Herbaceous Growth Exogenous Kind Caulescent Direction Erect

LEAVES—Duration Deciduous Parts Blade Petiole

Branching Simple Dentate Arrangement Radical Venation Parallel

Form Oblong Surface Glabrous

INFLORESCENCE—Class Determinate Mode Cyme

Flower ~~Perfect~~ ~~Imperfect~~ ~~Complete~~ ~~Incomplete~~ ~~Regular~~ ~~Irregular~~ ~~Symmetrical~~ ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous Color White Shape Bell

Sepals—Number Six Form Ovate Color White Surface Glabrous

Corolla—Cohesion Monosepalous Color White Shape Bell Insertion Hypogynous

Petals—Number Six Color White Form Ovate Surface Glabrous

Androecium:

Stamens—Number Six Cohesion Distinct Insertion Epipetalous Position

Filaments—Anthers Connate Attachment Innate Aspect Erect Dehiscence

Gynoecium:

Pistils—Number One Kind Simple Cohesion Distinct

Stigma—Number One Style—Number One

Ovary—Number of Cells Three Insertion Inferior Placentation Parietal

Ovules—Number Many

POLLINATION Self Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Humus Light Light Plant Water Mesophyte

LOCALITY Cedar Grove, Ind. Distribution Very Widely Distributed

REMARKS

DRAWINGS AND DIAGRAMS

No. 48

BOTANICAL SPECIMEN

Order or Family. Liliaceae

Common Name Lily of the Valley.

Genus Convallaria

Species Majalis

Locality Cedar Grove, Ind.

Date May 9, 1920

Page. Forty-Nine

PLANT DESCRIPTION

No. 49

PLANT—Kind ..Herb..... Duration...Perennial... Surface....Glabrous.

ROOT—Form ....Fibrous.....

STEM—Character Herbaceous Growth..Erogenous Kind. Caulescent Direction. Erect...

LEAVES—Duration ..Deciduous.....Parts ....Blade..Petiole.....

Branching ..Simple-lobed. Arrangement..Cauline..Opposite Venation....Netted..

Form.Linear Surface..Glabrous.

INFLORESCENCE—Class ..Indeterminate Mode ..Raceme.....

Flower..... ~~Perfect~~ Imperfect ..... Complete ~~Incomplete~~ ..... ~~Regular~~ Irregular ..... ~~Symmetrical~~ Unsymmetrical .....

Perianth:

Calyx—Cohesion ....Gamosepalous Color.....Green. Shape.....

Sepals—Number..... Form..Lanceolate Color.....green. Surface..Glabrous

Corolla—Cohesion Monopetalous Color Yellow. Shape Ligulate Insertion Hypogynous.

Petals—Number..... Color. Yellow....Form...Ovate.. Surface..Glabrous.

Androecium:

Stamens—Number..... Cohesion...Distinct Insertion..Hypogynous Position.....

Filaments—Anthers. Simple... Attachment..Innate Aspect..Erect. Dehiscence.....

Gynoecium:

Pistils—Number..One... Kind....Simple..... Cohesion..Distinct.....

Stigma—Number ....One..... Style—Number....One.....

Ovary—Number of Cells.One.. Insertion..Superior.... Placentation..Parietal...

Ovules—Number Few.....

POLLINATION .....Self...Pollination.....

FRUIT—Kind .....Dehiscence .....

HABITAT—Soil ..Sandy..... Light..Shade..Plants Water..Mesophyte..

LOCALITY ..Cedar Grove...Ind.s..Distribution ..Very common.....

REMARKS .....

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DRAWINGS AND DIAGRAMS

Order or Family... Scrophulariaceae

Common Name Yellow Toadflax

Genus ... Linaria

Species ... Vulgaris

Locality ... Cedar Grove, Ind.

Date... May 9, 1920

Page..... **PLANT DESCRIPTION** No.....

PLANT—Kind ..... Duration..... Surface.....

ROOT—Form .....

STEM—Character..... Growth..... Kind..... Direction.....

LEAVES—Duration .....Parts .....

Branching ..... Arrangement..... Venation.....

Form..... Surface.....

INFLORESCENCE—Class .....Mode .....

Flower..... Perfect / Imperfect ..... Complete / Incomplete ..... Regular / Irregular ..... Symmetrical / Unsymmetrical .....

Perianth:

Calyx—Cohesion ..... Color..... Shape.....

Sepals—Number..... Form..... Color..... Surface.....

Corolla—Cohesion ..... Color..... Shape..... Insertion.....

Petals—Number..... Color.....Form..... Surface.....

Androecium:

Stamens—Number..... Cohesion..... Insertion..... Position.....

Filaments—Anthers..... Attachment..... Aspect..... Dehiscence.....

Gynoecium:

Pistils—Number..... Kind..... Cohesion.....

Stigma—Number ..... Style—Number.....

Ovary—Number of Cells..... Insertion..... Placentation.....

Ovules—Number.....

POLLINATION .....

FRUIT—Kind .....Dehiscence .....

HABITAT—Soil..... Light..... Water.....

LOCALITY .....Distribution .....

REMARKS .....

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DRAWINGS AND DIAGRAMS

No..... BOTANICAL SPECIMEN Page.....

Order or Family.....

Common Name .....

Genus .....

Species .....

Locality .....

Date.....

Page Fifty

PLANT DESCRIPTION

No. 50

PLANT—Kind Herb Duration Perennial Surface Glabrous

ROOT—Form Fibrous

STEM—Character Herbaceous Growth Exogenous Kind Pubescent Direction Prostrate

LEAVES—Duration Deciduous Parts Blade Petiole

Branching Simple Entire Arrangement Radical Opposite Stipulated

Form Reniform Surface Glabrous

INFLORESCENCE—Class Indeterminate Mode Solitary

Flower ~~Perfect~~ ~~Imperfect~~ ~~Complete~~ ~~Incomplete~~ ~~Regular~~ ~~Irregular~~ ~~Symmetrical~~ ~~Unsymmetrical~~

Perianth:

Calyx—Cohesion Monosepalous Color Green Shape Bell

Sepals—Number Four Form Lanceolate Color Green Surface Pubescent

Corolla—Cohesion Monopetalous Color Reddish Shape Lanceolate Insertion Hypogynous

Petals—Number Four Color Reddish Form Lanceolate Surface Pubescent

Androecium:

Stamens—Number Eight Cohesion Distinct Insertion Epipetalous Position

Filaments—Anthers Simple Attachment Adnate Aspect Erostrate Dehiscence

Gynoecium:

Pistils—Number One Kind Compound Cohesion

Stigma—Number One 3-cleaved Style—Number One

Ovary—Number of Cells Five Insertion Superior Placentation Free Central

Ovules—Number Many

POLLINATION Self-Pollination

FRUIT—Kind Dehiscence

HABITAT—Soil Humus Light Shade Plant Water Mesophyte

LOCALITY Cedar Grove Woods Distribution Scarce

REMARKS

DRAWINGS AND DIAGRAMS

No. 50 BOTANICAL SPECIMEN Page Fifty

Order or Family Ericaceae

Common Name Indian Pipe

Genus Monotropa

Species Uniflora

Locality Cedar Grove Woods.

Date May 3, 1920

GOODYEAR-MARSHALL PUBLISHING CO., CEDAR RAPIDS, IOWA

Index of Specimens

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2. Daffodil
3. Bloodroot
4. Crowfoot
5. Myrtle
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9. Common Tulip
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11. Bluebell
12. Rose Anemone
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18. Peach
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46. Garden Strawberry
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REMARKS

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See page four of this folder for Directions for Collecting, Pressing and Mounting Specimens

KEY TO PLANT DESCRIPTION

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PLANT

KIND.

Herb, with no persistent woody stem above ground.
Shrub, a woody perennial smaller than a tree, usually with several stems.
Tree, a woody plant, with a single self-supporting stem, at least twenty feet in height.

DURATION.

Annual, completes growth and matures seed in one year.
Winter Annual, seed germinates in the fall and matures seeds the following season.
Biennial, requires two years for maturing seed.
Perennial, lives year after year.

SURFACE.

Glabrous, smooth.
Pubescent, downy, with soft hairs.
Tomentose, wooly.
Spinose, prickly.

ROOT

FORM OR TYPE.

Primary, a single central root is developed.
Multiple—Primary, many, usually enlarged, fleshy roots.
Tuberous, develops an enlarged portion at the end of a smaller one.
Fibrous, made up of many fine roots.

STEM

CHARACTER.

Herbaceous, stem dies down in winter.
Woody, persists for more than one year.

GROWTH.

Exogenous, the fibro-vascular bundles in the form of a ring—outside growers.
Endogenous, bundles usually scattered—inside growers.

KINDS.

Caulescent, having stem above ground.
Acaulescent, apparently stemless.
Rhizome, a long underground stem.
Tuber, a short, thick rhizome.
Bulb, a short stem surrounded by thickened leaf bases.
Erect, upright.
Climbing, rising by means of tendrils.
Twining, winding around other plants or objects.
Decumbent, reclining, but with summit ascending.
Diffuse, widely spreading.
Prostrate, reclining.
Repent, Creeping, rooting at the nodes, or joints.

LEAVES

DURATION.

Persistent, remaining green through the winter.
Deciduous, falling off, or dying at the approach of winter.

PARTS.

Blade, or **Lamina,** the (usually) flat, expanded part.
Petiole, the leaf stalk. (If this is absent, the leaf is sessile.)
Stipules, small leaf-like appendages sometimes found at the base of the leaf.

BRANCHING.

1. **Simple,** a single blade with the outline of the margin various, as
   (a) Entire, with a smooth margin.
   (b) Dentate, toothed, the teeth pointing toward the teeth.
   (c) Crenate, rounded teeth.
   (d) Incised, irregularly and sharply cut less than half way to the midrib.

   Or with the blade variously divided, as,
   (a) Lobed, divisions extending not more than half way to the midrib, and either the sinuses or lobes rounded.
   (b) Cleft, divisions extending half way or more to the midrib, and either the lobes or sinuses acute.
   (c) Parted, the divisions reaching almost to the midrib.
   (d) Divided, the divisions reaching the midrib and not separated from it by a joint.
2. **Compound,** divided into two or more leaflets.
   (a) Palmate, with the leaflets arranged in a radiate manner.
   (b) Pinnate, with the leaflets arranged on each side of a common petiole.

ARRANGEMENT.

1. **Radical,** growing from the base near the ground.
2. **Cauline,** growing on the caulis or stem, when they may be,
   (a) **Alternate,** one leaf developed at a node.
   (b) **Opposite,** two leaves developed at a node.
   (c) **Whorled,** more than two leaves developed at a node.

Venation. The distribution of the frame-work of fibro-vascular bundles in the leaf which may be:
(a) **Parallel-veined,** veins approximately parallel.
(b) **Netted-veined,** veins forming a network.

FORM.

1. Those that are widest near or at the base and taper towards the apex.
   Lanceolate, length much greater than width.
   Ovate, length not more than two and one-half times the greatest width.
   Cordate, heart-shaped.
   Sagittate, arrow-shaped.
   Reniform, kidney-shaped.
2. Those which are widest near the apex and taper towards the base.
   Spatulate, rounded above, long and narrow below.
   Cuneate, wedge-shaped.
   Oblanceolate, inverted lance-shaped.
   Obcordate, inverted heart-shaped.
   Obovate, inverted ovate.
3. Those that are widest in the middle and taper equally towards the base and apex.
   Linear, length much greater than width.
   Needle-shaped, very long and narrow.
   Oblong, length not more than two and one-half times greatest width.
   Elliptical, length a little greater than width.

SURFACE.

Glabrous, smooth and sometimes shining.
Glaucous, covered with a fine white powder.
Pubescent, downy, with soft hairs.
Wooly, with very dense interwoven hair.
Spinose, covered with prickles.

INFLORESCENCE OR ARRANGEMENT OF FLOWERS

DETERMINATE.

Flowers arising from the terminal buds, thus checking the elongation of the axis, and giving rise to:
Cyme, a cluster with the central flowers blooming first.

INDETERMINATE.

Flowers arising laterally and successively as the floral axis elongates, giving rise to the following forms:
1. **Solitary,** a single flower in the axils of the leaves or at the end of the stem.
2. **Racene,** having flowers with pedicels on a single elongated axis.
3. **Corymb,** a shortened racene, having the lower pedicels elongated so that the lower flowers are brought up nearly to the level of the upper ones.

4. **Spike,** flowers sessile on an elongated axis.
5. **Catkin,** a scaly (and usually pendulous) spike.
6. **Spadix,** an erect spike, enclosed within a **spathe.**
7. **Head,** a dense cluster of sessile, or nearly sessile, flowers on a shortened axis.
8. **Umbel,** a nearly flat-topped cluster whose pedicels all proceed from the same point on the axis. It may be
   (a) **Simple,** each pedicel bearing a single flower.
   (b) **Compound,** each pedicel itself becoming an umbel.

FLOWER

Regular, corolla of equal petals and calyx of equal sepals, placed systematically around the axis of the flower.
Symmetrical, having the same number of parts in each circle.
Complete, having all the parts of a flower.
Apetalous, having no petals.
Perfect, or **Hermaphrodite,** having both stamens and pistils.
Monoecious, with stamens and pistils in separate flowers on the same individual.
Dioecious, with stamens and pistils in separate flowers, but on different individuals.
Polygamous, having both perfect flowers and those of one sex on the same or on different individuals.

PERIANTH, a name applied to the floral envelopes (calyx and corolla) when not readily distinguished.

CALYX.

1. **Monosepalous** or **Gamosepalous,** with sepals more or less united.
   (a) **Entire,** without lobes.
   (b) **Toothed,** many small lobes.
   (c) **Lobed,** cut down one-fourth.
   (d) **Cleft,** cut down one-half.
   (e) **Parted,** cut nearly to the base.
2. **Polysepalous,** made up of separate sepals.
   Sepals, number, form, color, surface, (terms used in leaf description).

COROLLA.

1. **Monopetalous,** or **Gamopetalous,** with petals united, when it may be
   (a) **Tubular,** the limb or expanded border inconspicuous in proportion to the length of the tube.
   (b) **Trumpet-Shaped,** limb conspicuous, its edge may be lobed, tube dilating.
   (c) **Bell-Shaped,** length about twice the breadth, tube widely expanding from base.
   (d) **Salver-Shaped,** limb flat, abruptly expanding from the long, narrow tube.
   (e) **Rotate,** limb widely spreading from near the base, tube inconspicuous.
   (f) **Ligulate,** strap-shaped, like the rays of a sunflower or dandelion.
   (g) **Labiate,** tube parted to form two lips, usually unequal.
2. **Polypetalous,** made up of separate petals.
   Petals, number, form, color, surface, (terms used in leaf description).
   Insertion.
   (a) **Hypogynous,** attached to the receptacle.
   (b) **Perigynous,** inserted on the calyx.

ANDROECIUM.

Stamens, number and comparative lengths, opposite or alternate with the parts of the corolla.
Insertion.
1. Hypogynous, placed on receptacle.
2. Epipetalous, placed on or attached to corolla.
3. Perigynous or epigynous, inserted on the calyx.

Cohesion.
1. Distinct, entirely separate.
2. Monadelphous, united by their filaments.
3. Syngenesious, united by their anthers.

Filament, state whether present or wanting.
Anthers.
1. Number of cells.
2. Attachment to filament.
   (a) Innate, inserted on end of filament.
   (b) Adnate, fastened to side of filament.
   (c) Versatile, attached at the middle and free to swing either way.

GYNOECIUM.

Pistils, number, simple or compound.
Stigmas and **Style,** their number, form, color, surface, divisions.
Ovary, the part of the pistil containing the ovules.
1. Number of cells.
2. Insertion.
   (a) Superior, free from calyx.
   (b) Inferior, adhering to the calyx.
3. Placentation.
   (a) Basal, ovules attached to the base of ovary.
   (b) Parietal, ovules attached to the walls of the ovary.
   (c) Free central, ovules attached to a central stalk arising from the base of ovary.
4. Number of ovules, few or many.

POLLINATION

Pollination refers to the way the pollen is transferred from the anther to the stigma.
Self-pollination, the pollen reaching the stigma of its own flower without an agent to carry it.
Cross-pollination, the pollen reaching the stigma of another flower by wind, water or insects as the agent.

FRUIT

Fruit consists of the matured ovary, together with any intimately connected parts.
INDEHISCENT, remaining closed after ripening.
Akene, a small dry fruit resembling a single seed.
Grain, interior of ovary completely filled by the seed.
Nut, usually having a hard shell.
DEHISCENT, opening in order to discharge seeds.
Follicle, a one-celled, simple ovary breaking open along a single suture.
Legume, a one-celled pod breaking open along both of its sutures.
Capsule, a ripened compound ovary.
FLESHY, the development of a fleshy or juicy mass surrounding the seeds.
Pome, a several-celled ovary, the "Core," surrounded by an eatable portion derived from the thickened calyx.
Pepo, a ripened ovary with a thickened adherent calyx, having a firm outer rind.
Berry, a thin-skinned, one to several celled, fleshy ovary and its contents.
STONE-FRUIT, the inner wall of the ovary becomes hardened into the seed commonly called the "stone."
AGGREGATE FRUITS, many carpels ripening into a compound mass which clings to the receptacle.
WINGED or **TUFTED FRUITS,** having an expanded membrane forming a wing.
BURS, having hooks on the outer surface.

HABITAT

SOIL FACTOR.

Sandy soil, little capacity for retaining water.
Clay soil, great capacity for retaining water.
Humus soil, rich in decaying animal and plant matter.

LIGHT FACTOR.

Light Plants, exposed freely to the light.
Shade Plants, protected more or less from the direct rays of the sun.

WATER FACTOR.

Hydrophytes, (water plants) plants that thrive in water, or the roots supplied with an abundance of water.
Mesophytes, plants that thrive best with a moderate supply of water.
Xerophytes, plants that thrive best with very little water.

DIRECTIONS FOR COLLECTING, PRESSING AND MOUNTING SPECIMENS

Collecting.—Make note of the kind of soil, and the conditions under which the plants are growing. Roots, stems, and leaves should be collected when the parts are not too large and, in selecting flowers, choose those that are newly opened. As far as possible, collect specimens on clear days, as they are then in the best condition. Secure at least two specimens of a kind when possible, one to analyze, the other to mount. In the study of trees, collect leaves and flowers, and take notes on other parts.

Plants may be carried in a common market basket. Place moist paper in the bottom of the basket and use dry paper to cover the plants as soon as collected. All dirt should be removed from the roots, and the plants should be kept moist until ready for the press.

Pressing.—Place the specimens between single folds of thin, smooth, unglazed paper (newspaper may be used) just as they should appear when mounted, and leave them undisturbed until dry. Place these folders, containing the specimens between other sheets of paper (blotting paper, carpet paper or old newspapers) which will absorb the moisture. Change them to fresh dryers once or twice every day until the specimens are thoroughly dry.

The specimens should be placed between two boards, or on the floor with a board on top, under pressure of fifty pounds or more, depending upon the number and kind drying at one time. Keep them under pressure from five to ten days until perfectly smooth and dry. A label containing the name of locality and habitat, with date of collection, should always be placed with the plant in the press.

Mounting.—When the specimens are dry, place each upon the mounting sheet opposite its description. Arrange and mount them carefully and neatly. If a specimen is too large, it can be mounted in two, or even three sections.

Securely fasten the specimens in place by narrow strips of adhesive tape or paper. Such leaves and plants as are not easily injured can be attached to the mounting sheets with glue or mucilage.